

© A N
E S S A Y

On the ORIGIN of
Human Knowledge.

BEING
A SUPPLEMENT
TO

Mr. LOCKE's ESSAY on the
HUMAN UNDERSTANDING.

Étienne Bonnot de Condillac, Abbé de Mureaux.

Translated from the French of the Abbé de Condillac,
Member of the Royal Academy of *Berlin*.

Thomas
By Mr. NUGENT.

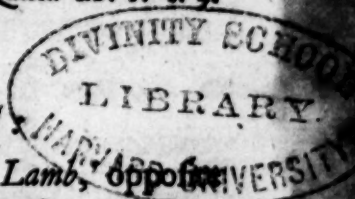
*Ut potero, explicabo: nec tamen, ut Pythius Apollo, certa ut sint
et fixa quæ dixerò: sed, ut homunculus, probabilia conjecturâ
sequens.*

Cic. Tusc. Quæst. lib. 1. c. 9.

L O N D O N

Printed for J. Nourse at the Lamb, opposite
Katherine Street in the Strand.

MDCCLVI.



[illegible]

B 1983 .E83

TO THE

Rev. Dr. **WARBURTON.**

S I R,

THE following work is so greatly indebted in many respects to the author of the *Divine Legation*, that I should have thought it a kind of omission, in sending this translation of it abroad, not to have publicly acknowledged the obligation. While I endeavour to discharge my duty by this address, I am pleased to think that I conform to the intention of the author of this *Essay*, whose candour in every respect is equal to his learning. *Ingenui est fatēri per quem profeceris.* He is ingenuous in expressing the pleasure he received, whenever he found that his thoughts coincided with yours: he is ingenuous in acknowledging his having borrowed of your writings, those remarks

iv DEDICATION.

on Hieroglyphics, which enrich this Essay: he is ingenuous, in fine, in declaring, that without your assistance, he should have found it difficult to succeed in the enquiry concerning the invention of letters. Can it be then thought extraordinary, that I should return you thanks in his name, and in behalf of that very branch of literature, which you have so happily illustrated? I hope not. However, I am pleased with the idea of executing a commission, which affords me an opportunity of expressing the real esteem I have for a Gentleman, who has done such eminent services to religion and letters. I am,

S I R,

Your most Humble,

Obedient Servant,

GRAY'S-INN, April
22. 1756.

THOMAS NUGENT.



THE
TRANSLATOR'S
PREFACE.

TRUTH being the end of all philo-
sophical researches, an impartial
regard to this important point is
the characteristic of every candid inquirer.
Among those, who have made the Human
Understanding the subject of their investiga-
tions, none seems to have been more deserving
of this title, than the Author of the following
Essay. Engaged in the examination of a sub-
ject, which though intimately present to us,

vi *The* TRANSLATOR'S PREFACE.

seems involved in great obscurity, he took care to divest himself of all prejudice, paying no regard to established forms of schools, nor to any other authority, than that of reason. He cultivated the true metaphysics with care, in order to destroy the false and adulterate; so that he seems to have removed those brambles by which the weakness of superstition, and the ignorance of false pretenders to learning, has been hitherto protected. Thus he has been doing real service to learning, and opening, as it were, a new and easier path through the avenues of the first philosophy. With regard to the truths which he has demonstrated, they are such as contribute to assist each other; and they form all together a chain, whose parts are closely connected. He has fixed the signification of terms, so as to render it impossible for any one to be mistaken; and all his proofs are built on the incontestable principles of experiment. In endeavouring to clear his subject of the thorns of the schools, he has sometimes attempted to strew it with flowers, though with a sparing hand, from a conviction that solidity is preferable

The TRANSLATOR'S PREFACE. vii.

preferable to brilliancy and show, and that the sure way to please a sensible reader is to have reason on our side.

In making this arduous inquiry he has followed the footsteps of the celebrated Mr. Locke, not amusing his reader with airy speculations about the nature of the human mind, but attempting to make an exact analysis of its powers and capacity, to know its operations, to ascend to the origin and formation of our ideas, in order to settle the boundaries of human knowledge. While he was thus intent upon discovering the secret springs and principles by which the understanding is actuated in its operations, he has carried his researches still farther, and shewn how one operation or principle of the mind depends upon another, which again may be resolved into one more general and universal. Thus directed by the light of experiment, he has found out a solution of the most difficult problems concerning the intellectual operations, and, as he says himself, he has reduced to a single principle whatever relates to the human understanding.

viii *The* TRANSLATOR'S PREFACE.

If any name can be said to have had weight with our author, it was that of Mr. Locke. This is the more remarkable, as he seems to have but an indifferent opinion of his own countrymen, those great metaphysicians Des Cartes and Mallebranche, the former of whom he charges with being a stranger to the origin and formation of ideas, the other with metaphysical reveries. Thus he shews himself a friend to truth wherever he finds it; and as such he could not but have a regard for a writer, whose memory will be ever revered by those who have any taste for sound reasoning. And yet here our author still preserves his usual impartiality, and freedom: for though he allows that Mr. Locke is the only philosopher that has succeeded in the study of human understanding; though he allows him to have the honour of being the first to demonstrate, that our knowledge is derived from the senses; in short, though he allows that he seems to be the first who ever handled the subject of language like a philosopher, yet he is far from paying an implicit regard to what

The TRANSLATOR'S PREFACE. ix

what he says, or from being any way influenced by his authority. Hence he not only takes notice of his neglects and omissions, especially concerning the manner of acquiring the habit of the operations of the mind, which indeed was the occasion of this Supplement; but he likewise remarks that there are several articles in his fourth book, intitled, *Of knowledge*, which he is far from approving. What articles these are he omits to mention, because they belong to the extension of ideas, which does not come under his plan: but as he has strongly opposed Mr. Locke in this Essay, p. 154. *et seq.* and as he has since written a treatise on sensations, in which he candidly acknowledges himself in an error, to the great honour of our English philosopher, it will not, I hope, be thought an impertinent digression, if I attempt to give a review of the whole controversy, with an analysis of his treatise on sensations.

Mr. Locke, in the second book of his Essay on human understanding, p. 107. observes,

ban 2

“ that

x: *The* TRANSLATOR'S PREFACE.

“ that the ideas we receive from sensation, are
“ often altered in grown people by the judg-
“ ment, without our taking notice of it. Thus
“ a globe of any uniform colour, as gold, or
“ jet, being set before our eyes, the idea there-
“ by imprinted in our minds is of a flat circle,
“ variously shadowed, with several degrees of
“ light and brightness coming to our eyes : but
“ being accustomed to perceive what kind of
“ appearances convex bodies are wont to make
“ in us, what alterations are made in the reflexi-
“ ons of light by the difference of the sensible
“ figure of bodies ; the judgment presently alters
“ the appearances into their causes ; and from
“ that variety of shadow or colour, collecting
“ the figure, it makes it pass for a mark of fi-
“ gure, and frames to itself the perception of a
“ convex figure, and an uniform colour, when
“ the idea we receive from thence is only a plane
“ variously coloured, as is evident in painting.”
This he illustrates further from the famous pro-
blem of Mr. Molineux, which is, “ Suppose
“ a man born blind, and now adult, and taught
“ by his touch to distinguish between a cube
“ and

The TRANSLATOR'S PREFACE. xi

“ and a sphere of the same metal, and nighly
“ of the same bigness ; if he was made to see,
“ quære whether by his sight before he touch’d
“ them, he could distinguish which is the globe
“ and which the cube ?” Mr. Locke thinks as
Mr. Molineux, that he could not. “ For
“ though he has obtained the experience of
“ how a globe, how a cube affects his touch ;
“ yet he has not yet attained the experience,
“ that what affects his touch so or so, must af-
“ fect his sight so or so.”

This opinion the Abbè Condillac endea-
vours to refute, p. 154. His reasons are
these : Mr. Locke’s whole argument sup-
poses that the image impressed on the eye at
the sight of a globe is only a circle, with dif-
ferent degrees of light, and variously sha-
dowed ; which is true. But it supposes like-
wise, what our author at that time thought to
be false, that the impression constantly made
on the mind, gives us only the perception of
this circle ; that if we see the globe of a con-
vex figure, it is because having acquired by
the touch the idea of this figure, and know-
ing

xiii *The* TRANSLATOR'S PREFACE.

ing what sort of image it produces in us by the sight, we have accustomed ourselves, contrary to the idea we receive from thence, to judge it to be convex. Among these suppositions he says, that Mr. Locke without proof advances, that the idea received by sensation represents nothing more than the image which we know to be imprinted on the eye. He says further, that there are a great many reasons for rejecting those judgments to which Mr. Locke has recourse: for this philosopher first of all supposes that we know what sort of images are produced within us by convex bodies, a knowledge which far the greatest part of mankind have not. Secondly, it would be in vain, to strive to join these judgments to vision; we should never confound them, as Mr. Locke supposes; but we should see one way and judge another. A third reason, is the impossibility of making us have a consciousness of this sort of judgments. Nor would it signify to say, that a great many things seem to pass in the mind, of which we take no manner of notice. It is true we might forget these judgments the
minute

The TRANSLATOR'S PREFACE. xiii

minute after we had framed them: but if we were to make them the object of our reflection, our consciousness concerning them would be so strong, that we should never be able to entertain the least doubt about them.

Such was the state of this controversy, as it stands in the following Essay, when our author published his treatise on sensations. Having had leisure to consider this subject more attentively, he found himself in an error, and from his great regard to truth, he confessed that he had been led away by prejudice to be of a different opinion from Mr. Locke. But I shall give his retraction in his own words: "It is impossible for us to recollect the ignorance in which we were born: this is a state which leaves no traces behind it. We remember to have been ignorant of no more than we remember to have learnt; and even to observe that we learn, we must know something: we must have discerned some ideas, to observe that we are sensible of our now having ideas, which before we had not.

" There-

xiv *The* TRANSLATOR'S PREFACE.

“Therefore this reflex memory, which
“renders us so sensible at this time of day
“of the transition from one notion to an-
“other, cannot ascend to the first ideas: on
“the contrary it supposes them, and this is
“the origin of that inclination we have to
“think they are innate. To say that we
“have learnt to see, to hear, to taste, to
“feel, to touch, appears the strangest para-
“dox in the world. Nature seems to have
“given us the intire use of our senses, at the
“very instant she formed us; and we ima-
“gine we always used them without any sort
“of study, because this use is now grown fa-
“miliar to us by exercise and habit.

“Such were the prejudices I had imbibed,
“when first I published my Essay on the
“Origin of Human Knowledge. Nor could
“I be convinced of my error by the argu-
“ments of Mr. Locke, concerning a person
“born blind, and now adult, who had ac-
“quired the use of his sight. I maintained
“contrary to the opinion of that philoso-
“pher; that the eye naturally judges of fi-
“gure, magnitude, situation and distance.”

Our

7

The TRANSLATOR'S PREFACE. xv

Our author having thus acknowledged his mistake, proceeds to mention by what means he surmounted his prejudices : It was by having frequent conferences on this subject with mademoiselle *Ferrand*, a French lady, of a philosophic turn of mind, whose lively imagination, and solid judgment, parts so seldom united in the same person, he takes an opportunity to commend. In these conferences he was convinced, and he has the complaisance to say that the lady convinced him, of the necessity of considering the senses separately, of exactly distinguishing the ideas we receive from each, of observing the progress with which they gain instruction, and in what manner they assist each other. For this purpose he fancied to himself a statue internally organized like ourselves, and animated by a soul destitute of all sorts of ideas. He supposed likewise that the external surface of marble did not permit this statue to have the free use of any of its senses ; but he reserved to himself the liberty of opening them, as he thought proper, to such different impressions as suited their organs. He thought

fit

xvi *The* TRANSLATOR'S PREFACE

fit to begin with the smell, because of all the senses it contributes the least to human knowledge. The others successively became the object of his researches, and after having considered them separately and jointly, he perceived that the statue grew to be an animal capable of attending to its own preservation.

Having formed this supposition, he observes that the principle which determines this statue to the exercise of its faculties, is plain and simple; the sensations themselves include it: these being all of their own nature either agreeable or disagreeable, the statue has an interest in enjoying the former, and relinquishing the latter. Now it is evident, that this interest is sufficient to give rise to the operations of the understanding and the will. Judgment, reflexion, desires, passions, &c. are only the very same sensation differently transformed *. Hence it seems to be of no manner

* The Abbè Condillac was sensible of an objection against what is here advanced, viz. that brutes have sensations, and yet their soul is not susceptible of the same faculties as that of man. This he admits to be true; but in answer he observes, that

The TRANSLATOR'S PREFACE. xvii

ner of use to suppose that the soul holds the several faculties, with which it is endowed, immediately of nature. Nature gives us organs, to inform us by pleasure what objects we are to seek, and by pain what objects we are to avoid. But there it stops; and leaves to experience the care of making us contract habitudes, and of finishing the work it has begun. This consideration is new, and shews how simple, and at the same time how admirable, are the ways of providence. Admirable, that to occasion ideas, desires, habitudes, and talents of every kind, nothing more should be wanting than to render us sensible to pleasure and pain!

that the organ of feeling is less perfect in them; and consequently it cannot be the occasional cause of all the operations which are observed in us. He says *the occasional cause*, because sensations are properly modes of the mind, and the organs can only occasion them. From thence a philosopher ought to conclude, agreeably to what religion teaches, that the soul of brutes is of an order essentially different from that of man. For would it become the wisdom of the Deity to permit that a spirit capable of raising itself to every kind of knowledge, of discovering its duty, and of deserving punishment or rewards, should be subject to a body, which was only the occasion of faculties necessary for animal life?

xviii *The TRANSLATOR'S PREFACE.*

But to return to our author, before he forms his suppositions concerning the statue, he tells us, that it is of the utmost consequence to put ourselves exactly in its place, in order to make our observations. We must begin to exist at the same time as the statue; we must have a single sense, when it has but a single sense; we must acquire the same ideas as it acquires; we must contract the same habits, and in a word be exactly what that statue is. It will not be able to judge of things as we do, till it has our senses and our experience; nor shall we judge like it, till we suppose ourselves deprived of every thing which it wants. This being premised he comes now to his remarks.

Beginning with those senses which of themselves do not judge of external objects, and which he supposes to be the smell, hearing, taste, and sight, he inquires into the ideas of a statue confined first to the sense of smell; next to the sense of hearing; then to smell and hearing; then to the sense of taste alone; and then to taste, smell, and hearing, all three united. He shews, that with a single sense

But the

The TRANSLATOR'S PREFACE. XIX

the statue is capable of giving its attention, of remembering, comparing, judging, discerning, imagining; that it has abstract notions, ideas of number and duration; that it is acquainted with general and particular truths; that it forms desires, is actuated by passions, is capable of love, fear, and surprize, and in fine, that it contracts habits. From thence he concludes, that with a single sense the understanding hath as many faculties, as with all the five. Those which seem to us to be particular, are only these very faculties, applied to a greater number of objects.

If we consider that to remember, to compare, to judge, to discern, to have abstract ideas, to know general and particular truths, are no more than different modes of being attentive; to have passions, to love, to hate, to hope, to fear, to will, are only different modes of desire; and in short that to be attentive and to desire, are originally no more than to perceive; we may conclude, that sensation includes all the faculties of the mind.

XX *The* TRANSLATOR'S PREFACE.

Further, if we consider that there are no sensations absolutely indifferent, we shall likewise conclude, that the different degrees of pleasure and pain, are the law by which our several faculties are produced. This principle may assume the names of want, surprize and others, which our author indeed is content to give it; still it is always the same. For we are always excited either by pleasure or pain, in whatever we do through want or surprize. And indeed our first ideas are nothing but pain, or pleasure. These are soon succeeded by others, which make room for comparisons, from whence arise our first wants and desires. In order to satisfy these, our researches are productive of other ideas, which are still productive of fresh appetites. The surprize which renders us sensible of any extraordinary event, occasionally augments the activity of our faculties; and a chain is formed, whose links are alternately ideas and desires, the tracing of which will be a means to discover the whole progress of human knowledge.

From

The TRANSLATOR'S PREFACE. xxi

From the consideration of the senses above-mentioned, our author is led next to view the statue as confined to the sense of seeing; and here he says we have a great many prejudices to struggle with. We are so accustomed to judge by the eye, of objects that surround us, that we never imagine we could have judged otherwise, the very first moment we beheld the light. At first we fancy that we have always seen as we see at present, and that all our ideas are innate. If a philosopher happens to suspect that our ideas derive their original from the senses, a thousand difficulties are started by those who are prejudiced in favour of the contrary opinion. They ask the colour, the taste, the smell of thought: and the philosopher, who is in a hurry to determine, before he has examined the origin of our ideas, finds himself puzzled. But philosophy takes a new step: it finds that our sensations are not the real qualities of objects, but on the contrary, that they are modes of the mind. From thence it was easy to conclude, that we perceive nothing

xxii *The* TRANSLATOR'S PREFACE.

but within ourselves ; consequently that a man confined to the sense of smell, would have been smell ; to the taste, would have been taste ; to the hearing, would have been sound ; to the sight, would have been light and colour. Then the greatest difficulty would have been to imagine, how we contract the habit of referring sensations that are within ourselves, to the objects that occasion them, when the senses have no means of suspecting an external space.

But considering the properties of feeling, we should have perceived that this sense is capable of discovering that space, and of directing the other senses to refer their sensations to the bodies spread around them : then even those who were prejudiced against this truth, would have begun at least to form some doubt. They would have agreed, that with the smell or taste, we should have thought ourselves to be nothing but smell or taste. The hearing would have admitted of more dispute, by reason of the habit we have formed of perceiving sounds, as something without us. However, this sense
has

The TRANSLATOR'S PREFACE. xiii

has such difficulty in judging of distance and situation, and is so often mistaken about them, that we should have agreed at length, that it does not judge of them by itself.

But how could the sight be informed by the touch; the sight that judges of distances to which the touch cannot reach? By analogy we should have judged that it must be the same case with this as with the other senses: the impression of light, being intirely in the eye, we might conjecture that we see only within ourselves, when we have not as yet learnt to refer our sensations to an external object. We should therefore have supposed, that of ourselves we have no knowledge but of light and colours, and after having accounted in this hypothesis for all the phenomena, and after having explained in what manner with the assistance of the touch we come to judge of the objects contained in space, there would have been nothing wanting but experiments to remove all our prejudices.

xxiv *The* TRANSLATOR'S PREFACE.

After these remarks, our author says it must in justice be acknowledged, that Mr. Molineux was the first who formed conjectures on the question before us : that this gentleman communicated his thought to Mr. Locke, who agreed with him, that a man born blind, upon being made to see, would not distinguish by his sight a globe from a cube. This conjecture was afterwards confirmed by the experiments of Mr. Cheselden, which it had occasioned.

Having paid this compliment to Mr. Molineux and to Mr. Locke, our author returns to his statue, and thinks himself authorized to affirm, that with the sense of vision only it could see nothing but light and colours, and that it could not judge there is any object without itself ; that it would perceive colours only as modes of its own existence ; at the first instant it would see them confusedly ; afterwards it would distinguish them one from the other ; then it would come to discern several together ; but that it could have no idea of figure, situation, or motion.

Hitherto

The TRANSLATOR'S PREFACE. XXV

Hitherto he had treated of those senses which of themselves do not judge of external objects; he comes now to the only sense that does; which is that of feeling. And here he examines into the several degrees of sensation which a man may have, who is reduced to this single sense. Beginning with the very lowest degree of all, he says, that a man in that situation has no idea of extension or motion. Then he explains in what manner a man continuing motionless begins to feel himself in some measure extended; and how having the use of his hands, he comes to discover his body, and finds that there is something without him. Next he considers the pleasure, the pain, the wants and desires of a man confined to the sense of feeling; the manner in which he begins to discover space; the ideas he may acquire, such as of pleasure, pain, number, figure, duration, space, immensity, eternity, &c.

From this detail he proceeds to make some observations in order to facilitate what he has to say concerning the sight. The manner in which the hands judge of objects, by means of one, two, or more sticks, bears

so

xxvi *The* TRANSLATOR'S PREFACE.

so great a resemblance to that in which the eye judges of them by means of the rays, that these problems are generally explained, the one by the other. The first time the statue takes the stick in hand, it knows only that part which it actually holds. It does not know it is extended, consequently it cannot judge of the distance of those bodies to which it reaches. This stick may be differently inclined, and then it makes different impressions on the hand. But these impressions do not inform it that it is inclined, so long as it is ignorant of its being extended. Consequently it cannot discover the different situations of objects. To judge thereby of distances, it must have felt the whole length of the stick; and to judge of situations by the impression it receives from the stick, it is necessary that while it holds it with one hand, it should examine its direction with the other. So long as it is incapable of judging of the direction of two sticks, whose length it knows, and which it holds, one with the right hand, and the other with the left; it cannot tell whether they cross one another in any part, nor whether their

The TRANSLATOR'S PREFACE. xxvii

their extremities join, or are wide from each other. It will often imagine that it touches two bodies when it touches but one; it will imagine a thing to be above which is below, and *vice versa*. But as soon as it becomes capable of remarking the different directions, according to the different impressions, then it will know the situation of the sticks, and thereby shall judge of the situation of bodies. Then it no longer refers the sensations transmitted by the stick, to the extremity which acts upon the hand; but on the contrary it feels on the opposite extremity, the softness or hardness of those bodies, to which it extends; and this habit shall make it distinguish sensations, which it did not distinguish before.

After this inquiry into the different senses singly considered, our author proceeds now to the most curious part, and what most relates to our purpose, namely, the manner in which the touch instructs the other senses to judge of external objects. Having considered the touch in conjunction with the smell and hearing, he inquires how the eye learns to see the distance, situation, figure,

xxviii *The* TRANSLATOR'S PREFACE.

gure, magnitude, and motion of bodies. And applying his observations to the statue, the first thing, he says, to be remarked, upon making the statue see, would be its surprize. So long as it was confined to the sense of feeling, there was no possibility of its judging of magnitude, situation, and distance, by means of two sticks, of which it neither knew the length nor direction. Now the rays are to the eye, what a stick is to the hand; and the eye may be looked upon as an organ, which in some measure has an infinite number of hands, to lay hold of an infinite number of sticks. If the eye was capable by itself of knowing the length and direction of the rays, it might, like the hand, refer to one extremity what it perceived at the other, and thus judge of magnitude, distance, and situation. But the sensation it feels, so far from informing it of the length and direction of the rays, does not even acquaint it whether there be any length and direction at all. Besides, the eye wants the assistance of the touch, to form a habit of the motions proper for vision; to accustom itself to refer its sensations to the
extremity

The TRANSLATOR'S PREFACE. XXIX

extremity of the rays, or thereabouts; and to judge thereby of distance, magnitude, situation, and figure.

To apply this to the statue, it puts its hand on its eye, and the colours disappear; it draws back its hand, and the colours appear again. From thence it is induced to think that these colours are not modes of its existence, but that they are something impalpable, which it perceives on the top of its eye, as it feels the object it touches, at the end of its finger. It sees that these colours form a surface, and this luminous surface appears immense; but every thing is represented in great confusion. For as colours do not of themselves convey an idea of extension, the eye is incapable of distinguishing magnitude, figure, or situation, but so far as it applies them to objects whose magnitude, figure, and situation, are known to it some other way. Now it has no knowledge of these things, so long as it still beholds the colours as a surface just upon it. The touch must learn it to remove the colours to some distance, and to see them on objects
with

XXX *The* TRANSLATOR'S PREFACE.

with whose magnitude, figure, and situation, this sense is well acquainted. The statue then begins to judge this surface at some distance; it sees the colours on the external bodies; and, surprized at this discovery, it tries all round, whether it cannot touch every thing it sees. Its hand meets with a body of a new colour, and its eye perceives another surface, so that the same experiments induce it to form the same judgments. It puts its hand on every thing round about it; and by touching a body painted with different colours, its eye contracts the habit of distinguishing colours on a surface, which it sees at a distance.

Thus by alternately conveying its hand from its eye, to external bodies, and from the bodies to its eye, it learns to measure distances. It studies the different impressions, which its eye receives every time, and having accustomed itself to connect these impressions with the distances known by feeling, it sees objects sometimes nearer, or sometimes farther off, because it sees them where it reaches them by the touch.

THE TRANSLATOR'S PREFACE. XXX

The first time, for instance, it directs its light towards a globe, the impression it receives from thence, represents only a flat circle, differently shadowed and coloured. It does not therefore as yet see a globe, nor does it even distinguish a circle; because its eye has not yet learnt to regulate its motions in order to take in the whole figure. But it touches the globe; and directing its light by the hand over the whole surface, it judges that the colour it beholds is extended, round, and prominent. This experiment is repeated, and thereby it repeats the same judgment. Thus it connects the ideas of rotundity and convexity, with the impression made on it by a particular mixture of shade and colour. Afterwards it tries to judge of a globe, which it has never touched. At first it is puzzled, but upon feeling, its uncertainty is removed: and in consequence of the habit it has framed of judging that it sees a globe, this judgment is performed with such quickness and certainty; and the idea of this figure is so strongly connected with a surface, on which there is a certain proportion of shade and colours, that at length it
sees

xxxii *The* TRANSLATOR'S PREFACE.

sees every time nothing but what it has often said it ought to see.

In like manner it shall learn to distinguish a cube, when the eye having studied the impressions it receives at the very time that the hand feels the angles and sides of this figure, it hath contracted the habit of observing in different degrees of light, the same angles and the same sides. The reason therefore why the eye sees a figure distinctly, is because the hand has taught it how to take in the whole at once; it must direct the eye to the different parts of a body, so as to make it give its attention first to one, then to two, and afterwards to a greater number, and at the same time to the different impressions of light. If it did not study each part separately, it could never see the intire figure; and if it did not study with what variety the light acts upon it, it would see only flat surfaces. Thus the statue comes to distinguish so many things at once, only because having observed them separately, it recollects in an instant the several judgments it successively framed.

It

The TRANSLATOR'S PREFACE. xxxiii

It is the hand that, fixing the sight to the different parts of a figure, one after the other, engraves them all in the memory. The eye perceives them, where the touch tells them they ought to be, and exactly in that situation. It is the hand that learns this organ to judge at the same time of magnitude. For as soon as it shews the colours on the object it touches, it delineates a surface of a limited extent. In short, it is the hand that makes the eye perceive the motion of bodies; because it accustoms this organ to follow the objects, which it removes from one point of space to another.

Hitherto the statue has taken a view only of those objects which are within the reach of its hand: for with these it must begin. It has not yet learnt to see any further. The motion indeed of its body has informed it that space must be much more extended; but it does not imagine how this space will be able to appear so to the eye. As it sees within the reach of its hand, only because having frequently beheld, and at the same time felt the objects within that space, it has so strongly
b connected

xxxiv *The* TRANSLATOR'S PREFACE.

connected the judgments of feeling with the sensations of vision, that seeing and judging are formed at the same time, and confounded together; so it shall not be able to see any further, till new experiments make it confound with those sensations, the judgments it hath formed on other distances. It perceives a space about two feet distant from it: the eye instructed by the touch measures its parts, determines the figure and size of objects inclosed within it, places them at different distances, judges of their situation, motion, and rest. As to the objects that are farther off, it sees them all at the extremity of that inclosure which bounds its sight; it perceives them as upon a luminous surface, concave, and immoveable. They appear to have figure, because the experience it has had in respect to those that are within the reach of its hand is sufficient for this effect. If they move horizontally, it sees them pass from one part of the surface to another; if they approach or draw back, it only sees them increase or diminish in a very sensible manner. But it does not judge of their real magnitude:
for

The TRANSLATOR'S PREFACE. XXXIV

for the reason of its having learnt to distinguish the objects contained within its sphere, by the eye, was because the touch had made it connect different ideas of magnitude with the different impressions made on the eye. Now these impressions vary in proportion to the distances, since the images diminish or increase in the same proportion. Therefore as it has not made any experiments to connect these impressions with the magnitudes within the distance of a few steps, it cannot judge of distant objects, but from the habits it has contracted. Consequently the impression made by small images, must make them appear small, and that of large images must make them appear large; for thus it judges of those which the touch has placed within the reach of its eye. Hence it is that the connexions it has formed to judge by the sight of the magnitude of objects within a foot or two, are not sufficient to frame a judgment of those at a further distance.

In the mean time it stretches out its arm to lay hold of what it sees: surprized at its touching nothing, it advances; at length it

xxxvi *The* TRANSLATOR'S PREFACE.

meets a body: immediately the judgments of the sight agree with those of the touch. A moment after it draws back; and then the object does not seem to be farther off: but upon stretching out its hand, and finding it to be out of its reach, it moves towards it again, and after having done this several times, it gradually accustoms itself to see it beyond its reach. The motion it made to get from the object, gives it nearly an idea of the intermediate space: it knows how big that object was when it touch'd it; and if it has learnt from the touch to apprehend it of a certain magnitude, at the distance of two feet, the memory it retains of this magnitude directs it to apprehend it of the same bulk, when at a greater distance. Then it is capable of judging by the sight, whether the object draws back, comes forward, or moves in any other direction; because it sees its motions in the changes incident to the impressions made on the eye. It is true these changes are the same, whether it goes towards the object, or the object comes towards it; but the sensation

The TRANSLATOR'S PREFACE. xxxvii

sensation it has of its own motion or rest, does not suffer it to be mistaken.

The statue therefore accustoms itself to connect different ideas of distance, magnitude, and motion, with different impressions of light. It does not indeed know that the images imprinted on the bottom of the eye, diminish in proportion to the distances. But it experiences different sensations; and the judgments, of which it has formed a habit according to circumstances, coming to be confounded with these sensations, it perceives the light and colours no longer in its eye, but at the other extremity of the rays; as it perceives solidity, fluidity, &c. at the end of the stick with which it touches external objects. Thus the more the eye is directed in its judgment by the touch, the greater the space must appear. It perceives the light and colours, which being diffused over the objects, delineate their size and figure, and represent their motion through space; in a word it sees them, where it judges they ought to be.

By its sight the statue comes to distinguish not only those objects which it ceases to touch, but

xxxviii *The* TRANSLATOR'S PREFACE.

likewise those which it never touched at all ; provided the eye receives the like, or very near the like sensations. For the touch having once connected different judgments, with different impressions of light, these impressions cannot be revived, but the judgments must be revived and confounded with them. Thus it accustoms itself by degrees to see without the help of feeling. And yet the experience by which it has learnt to see the distance, size, and figure of one body, is not always sufficient to enable it to distinguish the distance, size, and figure of every other. It must make as many observations, as there are objects that differently reflect the light; it must even multiply its observations on each according to the different degrees of distance ; and after all, notwithstanding these precautions, it shall be often mistaken.

Thus it is that the statue shall learn to judge by the eye, of space, distance, situation, figure, and motion. The more it makes use of this organ, the more it will find the conveniency of it. The eye enriches the memory
with

The TRANSLATOR'S PREFACE. XXXIX

with the most agreeable ideas : it supplies the imperfection of the other senses ; judges of inaccessible objects ; and reaches as far almost as interminate space. And indeed the ideas acquired by vision are so strongly connected with all the rest, that it is hardly any longer possible for the statue to think of odoriferous, sonorous, or tangible objects, without immediately investing them with light and colours. The eye having contracted the habit of embracing an intire object, or even several at once, and of judging of their relations ; acquires thereby so superior a discernment, that the statue will even chuse to consult it preferably to all the other senses.

In regard to ourselves, it is become so natural for us to judge by the eye, of magnitude, figure, distance, and situation, that a great many will find it difficult perhaps to persuade themselves that this is only a habit consequent to experience. All these ideas seem so intimately connected with the sensations of colour, that we do not imagine they were ever separated. This is the only cause, which still keeps up that prejudice ; but to remove it

xi *The TRANSLATOR'S PREFACE.*

entirely, it is sufficient to make such suppositions as those above concerning the statue. This statue would certainly believe that smells and sounds were transmitted to it by the sight, if upon making it see, hear, and smell at once, we supposed that these three senses were always to be exercised at the same time; insomuch that every time it saw a particular colour, it should perceive a particular smell, and hear a particular sound; and it should cease to smell and to hear, when it ceased to see. The reason therefore why it distinguishes so well what belongs to the hearing and to the smell, is because smells and sounds are transmitted, without mingling with colours. But as the senses of seeing and feeling act at the same time, the one to give us the idea of light and colours, the other the ideas of magnitude, figure, distance, and situation, it is with difficulty we distinguish what belongs to each of these senses, and we attribute to one only, what we should divide amongst them all.

The sight is therefore enriched at the expence of the touch, because acting only in

con-

The TRANSLATOR'S PREFACE. xli

conjunction with the latter, or in consequence of the instructions received from it, its sensations are mixed with those ideas for which it is indebted to the touch. On the contrary the latter acts frequently by itself, and does not suffer us to imagine that the sensations of light and colours belong to it. But if the statue were to see only the bodies it touched, and to touch only the bodies it saw, it would be impossible for it to distinguish the sensations of sight, from those of feeling. It would not so much as suspect that it had eyes: it would think that its hands had both the senses of vision and touch. It is therefore owing to judgments formed by habitual custom, that those ideas, which we receive only from the touch, are attributed to the sight.

The Abbé Condillac having thus accounted for our being prompted to attribute to the sight those ideas for which we are indebted only to the touch, attempts to shew by what train of reflexions this prejudice is surmounted. And here he observes, that in case of every new discovery, it is well worth our curiosity

xlii *The* TRANSLATOR'S PREFACE.

to be acquainted with the first suspicions of philosophers, and especially with the reflexions of those, who came nearest the truth. Mallebranche, according to him, is the first, who says that there are any judgments mixed with our sensations. The same Mallebranche takes notice, that a great many will be surprized at his opinion; and so they will, when they see his explication. For not being able to comprehend how we should form these judgments, he attributes them to God: a very convenient way, and generally the last shift of philosophers.

But Mr. Locke, says our author, was above framing any such systems. He acknowledges that our seeing convex figures is merely in virtue of a judgment which we have formed to ourselves by habitual custom. And yet the reason he gives is not satisfactory. “ Being
“ accustomed to perceive what kind of ap-
“ pearances convex bodies make in us, what
“ alterations are made in the reflexions of
“ light, by the difference of the sensible fi-
“ gure of bodies; the judgment presently, by
“ an

The TRANSLATOR'S PREFACE. xliii

“ an habitual custom, alters the appearances
“ into their causes; so that from that which
“ truly is variety of shadow or colour, col-
“ lecting the figure, it makes it pass for a
“ mark of figure, and frames to itself the per-
“ ception of a convex figure, &c.” Can it be
supposed, says our author, that we should know
the images which convex bodies produce with-
in us, and the changes which happen in the
reflexion of light, according to the difference
of the sensible figures of bodies?

Mr. Molineux, who proposed the problem,
which occasioned the several discoveries in re-
lation to sight, seems, according to our au-
thor, to have hit only upon part of the truth.
“ Suppose a Man born blind, and now adult,
“ and taught by his touch to distinguish be-
“ tween a cube and a sphere of the same me-
“ tal, and nighly of the same bigness. Sup-
“ pose then the cube and the sphere placed on
“ a table, and the blind man to be made to
“ see: quære, whether by his sight, before he
“ touched them, he could distinguish which
“ is the globe, which the cube?” The con-
ditions

ditions that those two bodies should be of the same metal and same bigness, are superfluous; and the last seems to suppose that the sight may, without the assistance of the touch, give different ideas of bigness. If so, our author says he does not see why Locke and Molineux should deny that the sight alone is capable of distinguishing figures.

Besides, the Abbè Condillac observes, that they should have reasoned in regard to distance, situation, and bigness, as in respect to figure; and concluded that the moment when a man born blind was made to see, he would be incapable of judging of any of these things at all. For they are all included in the perception of the different parts of a globe and a cube. It is a contradiction to suppose that an eye, which distinguished situation, bigness, and distance, could not distinguish figures. The bishop of Cloyne was the first who thought, that the sight alone could not judge of any of these things. Another consequence our author observes, which should not have escaped Mr. Locke, is that the eye,
unassisted

The TRANSLATOR'S PREFACE. xly

unassisted by experience, could of itself see nothing but light and colours, and that the touch alone could instruct it how to distinguish external objects. Besides, Mr. Locke should have remarked that judgments are mingled with all our sensations, by whatever organ they are transmitted to the soul: whereas he says exactly the contrary†. The whole of this shews, that the discovery of truth is made by slow and insensible degrees; and that very often we are within sight, as it were, of the expected port, without being able to reach it.

As we have thus far attended our author in his observations, we should be glad to follow him to the end of the dissertation, in order to shew in what manner he considers the sense of taste as joined to the touch, and what effects arise from the union of the five senses. But this would lead us too far beyond the bounds of a preface, which we are afraid we have already exceeded; we shall therefore conclude with his review of the case mentioned in

† Essay on Human Underst. Book IX. § 9.

this

xlvi *The* TRANSLATOR'S PREFACE.

this Essay, p. 164. concerning the man born blind, who had been couched by Mr. Cheselden. Here again he opposes the opinion of Mr. Locke, and contrary to Mr. Cheselden's positive experiment, maintains, that a man born blind, upon acquiring the use of his sight, would, without the assistance of the touch, be able to acquire the ideas of extension, figure, situation, &c. But this being exactly a parallel case to that of Mr. Molineux; our author, upon a review of the subject in the treatise we have been here analyzing, fairly retracts his former opinion, and giving the case as published in the Philosophical Transactions, No. 402. Ann. 1728, he makes the following comment upon it.

The young man would not have consented to the operation, if he had not been induced to it by the desire of knowing how to read and write. This determined him; and they began with depressing the cataract of one of his eyes. It is to be observed, that he was not born so blind, but he could distinguish day from night. He could even by broad
day

The TRANSLATOR'S PREFACE. xlvii

day discern white, black, and red. As soon as he began to see, the objects appeared to him as if they touched the outward surface of his eye. The reason of this is obvious. Before they had couched him, he had often observed, that he ceased to see the light, as soon as he put his hand on his eye. From thence he contracted the habit of judging it to be something external. But as this was a confused and glimmering light, he did not distinguish the colours enough to discover the bodies by which they were transmitted. Hence he did not conclude them to be at a certain distance; consequently it was impossible for him to distinguish any intermediate space; and of course they must have appeared to him as if they immediately touched his eye. Now the operation produced no other effect than to render the light more vivid and distinct. He must therefore have continued to see it, where he had hitherto judged it to be, that is, upon his eye; consequently he perceived only a surface equal to the size of this organ.

But he fully proved the truth of the preceding observations on the statue. Every thing

xlviiii *The* TRANSLATOR'S PREFACE.

thing he saw appeared to him to be of a surprising bigness. His eye not having yet compared objects of different magnitude, he could have no relative ideas concerning this subject. Consequently he knew not how to distinguish the limits of objects, so that the surface which touched him, must have appeared to him, as it did to the statue, immense. Hence we are told that he was some time before he could conceive there was any thing beyond what he saw. The objects appeared to him to be all jumbled and confused, and how different soever they were in figure and size, he could not distinguish them. This is because the eye cannot distinguish, till it has learnt to apply the colours to distant objects. But in proportion as he accustomed himself to deepen the light, and to create, as it were, a space before his eyes, he placed each object at different distances, assigning to each its proper place; and then he began to judge, by the eye, of their figure and relative magnitude.

Till these ideas were familiar to him, he had a difficulty in comparing them; and he

was

The TRANSLATOR'S PREFACE *xlii*

was far from imagining in what manner the eye could judge of relations of magnitude. It is for this reason that a thing an inch long, put before his eye, appeared to him as big as a house. These new sensations, in which he was every instant making fresh discoveries, could not fail inspiring him with a curiosity of studying every thing by the sight. Thus when they shewed him any objects that he knew by the touch, he carefully observed them, that he might know them again by the eye; and his attention was greater on this account, because he could not distinguish them at first either by their figure or size. In this situation those objects which reflect most light, and whose *whole together* is easiest perceived, must have pleased him the most; such are smooth and even bodies. They even pleased him most at the time when he could not yet tell their figure*.

The

* This is not exactly what Mr. Chesebden says. For at the same time that he mentions this young man's incapacity of distinguishing objects, how different soever in size and figure, he says he found those most pleasing and agreeable which were regular and smooth. This seems to be a contradiction. It

1 *The* TRANSLATOR'S PREFACE.

The relieve, or prominence of bodies, not being so distinguishable in painting, as in real life, this young man was some time before he could consider pictures any otherwise than as plans differently coloured; it was two months before they appeared to him to represent solid bodies. And this was a discovery which he made all of a sudden. Surprized at this phenomenon, he asked which was the sense that deceived him, his sight, or his touch?

But he was greatly amazed at seeing his father's picture in miniature; he said it was like *putting a bushel into a pint*. His surprise was owing to the habit his eye had formed, of connecting the figure with the size of the object. He had not as yet accustomed himself to judge, that these two things might be separated. We are naturally prejudiced in

was natural that this young man should not distinguish either figure, or size, the first moment he saw the light; but it would have been impossible for him to be better pleased with regular objects, if his sight had continued in that confused state. He could not therefore think them more agreeable, till he had begun to distinguish figure and magnitude. Doubtless he found it difficult to explain the several differences he observed.

favour

The TRANSLATOR'S PREFACE. *ili*

favour of an object that affords us any pleasure, and think it is possessed of every perfection. Thus this young man seemed to be surprized, that the persons whom he loved best should not be the handsomest; and that the viands which he relished most should not be the most agreeable to the eye.

The more objects he beheld, the more he was pleased with having acquired his sight. He seemed quite charmed, when they carried him to Epsom, where the prospect is extensive and delightful. He called this a new manner of seeing; and indeed he was in the right; for there are as many different ways of seeing, as there are different judgments in vision; and what a number of them must have arisen from the prospect of so delightful a landscape?

It is observed that black was disagreeable to him, and that he was even scared, the first time he saw a Negro; probably because that colour reminded him of his former state. At length about a year afterwards they made the operation on the other eye, and it succeeded in the same manner. To this eye every thing appeared

lii *The* TRANSLATOR'S PREFACE.

peared very large, but not so large as they had appeared to the first. The reason, I fancy, is because presuming he was to see with this eye in the same manner as he had done with the other, he mixed the judgments he had accustomed himself to frame with the eye on which they had begun to perform the operation; he mixed, I say, those judgments with the sensations transmitted by the other eye. But as he could not be so exact at first, he saw with this eye the objects still too large.

When he began to view an object with both eyes, it appeared to him as big again. This was because it was more natural, that the eye to which things appeared but small, should increase their size, than the other to which they appeared so large, should diminish it. And yet he did not see double: because his touch directing the eye which had last recovered its sight, to distinguish the objects, made it see them, just in the very situation where it shewed them to the other.

Mr. Cheselden observes, that what greatly puzzled those who were born blind, and had acquired

The TRANSLATOR'S PREFACE. liii

acquired their sight by being couched, was how to direct their eye to the objects which they wanted to see. This must have been the case; because as hitherto there had been no occasion for moving their eyes, they could have formed no habit of directing them. To conclude. It is impossible but there should be several defects in observations made for the first time on phenomena, in which there are a thousand minute difficulties to solve. But there is this use in them at least, that they enable future observers to make greater improvements.

acquired their sight by being couched, was
 how to direct their eye to the objects which
 they wanted to see. This must have been
 the case; because as hitherto there had been
 no occasion for moving their eyes, they could
 have formed no habit of directing them. To
 conclude. It is impossible but there should
 be a thousand minute difficulties to solve.
 But there is this use in them at least, that they
 make future observers to make improvements.

Introduction Page 1

PART I.

Of the materials of our knowledge,
 and particularly of the operations
 of the mind 13

THE SECT. I. CHAP. I.

Of the materials of our knowledge, and of the
 distinction between soul and body ibid.

CHAP. II.

Of sensations 19

SEC-

CONTENTS.

SECTION II.

The analysis and origin of the operations of the mind 26

CHAP. I.

Of perception, consciousness, attention, and reminiscence 27

CHAP. II.

Of the imagination, contemplation, and memory 38

CHAP. III.

In what manner the connexion of ideas, formed by the attention, produces the imagination, contemplation, and memory 49

CHAP. IV.

That the use of signs is the real cause of the progress of the imagination, contemplation, and memory 51

CHAP. V.

Of reflexion 58

CHAP.

CONTENTS

CHAP. VI.

*Of the operations which consist in distinguish-
ing, abstracting, comparing, compound-
ing, and decomposing our ideas* 64

CHAP. VII.

*A digression on the origin of principles, and
of the operation which consists in ana-
lyzing* 67

CHAP. VIII.

*Of affirming : denying : judging : reasoning :
conceiving : understanding* 74

CHAP. IX.

*Of the defects and advantages of the imagi-
nation* 78

CHAP. X.

*From whence the imagination derives those
graces with which it embellishes truth* 89

CHAP. XI.

Of reason, wit, and its different kinds 92

SEC.

CONTENTS.

SECTION III.

Of simple and complex ideas 104

SECT. IV. CHAP. I.

Of the operation by which we give signs to our ideas 114

CHAP. II.

Facts confirming what has been demonstrated in the preceding chapter 123

SECTION V.

Of abstraction 137

SECTION VI.

Of some judgments attributed to the mind without foundation, or the solution of a metaphysical problem 152

PART

CONTENTS

PART II.

Of language and method

169

SECT. IV. CHAP. I.

SECTION I.

Of the origin and progress of language

ibid.

CHAP. I.

The mode of speaking by action, and that of articulate sounds, considered in their original

171

CHAP. II.

Of the prosody of the earliest languages

179

CHAP. III.

Of the prosody of the Greek and Latin tongues, and occasionally of the recitation or declamatory speaking of the ancients

183

CHAP. IV.

Of the progress which the art of gesture made among the ancients

199

CHAP.

CONTENTS

CHAP. V.

Of music 200

CHAP. VI.

*Comparison between the musical and the plain
declamation* 221

CHAP. VII.

Which is the most perfect prosody 224

CHAP. VIII.

Of the origin of poetry 227

CHAP. IX.

Of words 237

CHAP. X.

The same subject continued 249

CHAP. XI.

Of the signification of words 258

CHAP. XII.

Of transpositions 264

CHAP. XIII.

Of writing 273

CHAP.

CONTENTS.

CHAP. XIV.

Of the origin of fable, of parables and enigmas, with some particulars concerning the use of figures and metaphors 279

CHAP. XV.

Of the character of languages 283

SECTION II.

Of method 300

CHAP. I.

Of the first cause of error, and of the origin of truth *ibid.*

CHAP. II.

Of the manner of determining ideas, or their names 305

CHAP. III.

Of the order which we ought to follow in the investigation of truth 318

CHAP. IV.

Of the order which ought to be followed in the exposition of truth 333

AN



AN

ESSAYS

CONCERNING THE

ORIGIN

OF

HUMAN KNOWLEDGE.



INTRODUCTION.



F all sciences that which contri-
butes most to open, as well as to
fix and enlarge the understanding,
and which, consequently, ought
to prepare it for the study of every

other branch of knowledge is metaphysics.
But this science is so greatly neglected at pre-
sent, that the above assertion will doubtless to a
great many of my readers appear no less than
a paradox. I confess there was a time, when I

B

should

should have formed the same judgment of it myself. Of all philosophers the metaphysicians appeared to me the most superficial; so far was I from receiving any instruction from their writings, that I met with nothing but airy speculations, so that I began to charge the science with those extravagances which should have been imputed only to its professors. But endeavouring afterwards to remove this illusion, and to discover the cause of so many errors, I found those who are widest from the truth, to be of the greatest service to me. I had scarce discovered the unsafe paths they had trod, when I thought I had hit upon the only and sure way of arriving at the truth. It seemed to me that we might reason in metaphysics and in morals with as great exactness as in geometry; that we might frame as accurate ideas as the geometers; that we might determine, as well as they, the meaning of words in a precise and invariable manner; in short that we might prescribe, perhaps better than they have done, a plain and easy order for the attainment of demonstration.

We must distinguish two sorts of metaphysics. The one, vain and ambitious, wants to search into every mystery; into the nature and essence of beings, and the most hidden causes; all these she promises to discover to her admirers, who are pleased with the flattering idea. The other

INTRODUCTION. 3

other more reserved, proportions her researches to the weakness of the human understanding; and not concerning herself about what is above her sphere; but eager to know whatever is within her reach, she wisely keeps within the bounds prescribed by nature. The first makes all nature a kind of magic incantation, which vanishes like herself; the second, desirous only of seeing things as they really are, is as simple as truth itself. The former is the source of innumerable errors, as it fills the mind with vague and indeterminate notions, and with words that have no meaning: the latter conveys indeed no great store of knowledge, but it helps the understanding to avoid falling into mistakes, to reason exactly, and to frame clear ideas.

Philosophers have applied themselves more to the study of the former, and have considered the latter only as an accessory part which scarcely deserves the name of metaphysics. Mr. Locke is the only one, I think, that ought to be excepted: he has confined himself to the study of the human understanding, and has succeeded in the pursuit. Descartes was acquainted neither with the origin nor the formation of our ideas*. To this we must attribute the insufficiency of his

* I refer the reader to his third meditation: nothing appears to me less philosophical than what he says upon this subject.

method : for we shall never discover a sure way of conducting our thoughts, so long as we are strangers to the manner in which they are formed. Of all the Cartesians Mallebranche is he who saw most into the causes of our errors ; and yet this philosopher sometimes draws his comparisons from matter to explain the faculties of the soul * : at other times he is lost in the *intellectual world*, where he imagines he has discovered the source of our ideas †. Others create and annihilate beings, which they super-add to or take from the soul according to their fancy, vainly thinking by this means to account for the different operations of the mind, and of the manner in which it acquires or loses its knowledge ‡. In fine, the Leibnitzians make a far completer being of this substance : it is, according to them, a microcosm, a living mirror of the universe ; and by the power they give it of representing every thing that exists, they imagine they are able to explain its essence, its nature, and properties. Thus it is that each is biaſſed by his own system. We see only what surrounds us, and we think we see every thing : we are like children who imagine that

* Inquiry after truth, l. 1. c. 1.

† L. 3. See also his discourses and his metaphysical meditations, with his answers to M. Arnaud.

‡ The author of the action of the deity upon his creatures.

when

INTRODUCTION. 5

when they come to the end of a plain, they shall be able to touch the sky with their hand.

I would not have it inferred from hence that the writings of philosophers are of no manner of use: all that I mean, is, that whoever flatters himself to succeed better than so many celebrated genius's, must study them at least with a view of improving by their mistakes. It is an essential point to every person that is desirous of making any progress by himself in the search after truth, to know the mistakes of those who first undertook to shew him the way. The experience of a philosopher, like that of a pilot, consists in being acquainted with the rocks on which others have split; and without this knowledge no compass can direct them.

It would not be sufficient to discover the errors of philosophers, unless we searched into the causes of them: we should even ascend from one cause to another, till we reached the first. For there must be one and the same to all those who have gone astray; and this is the very point, as it were, at which the several roads begin that lead to error. Then perhaps, and close to this point, we should perceive another, where begins the only path that conducts to the knowledge of truth.

Our first aim, which we ought never to lose sight of, is the study of the human understand-

ing; not to discover its nature, but to know its operations; to observe with what art they are combined, and how we ought to conduct them, in order to acquire all the knowledge of which we are capable. We must ascend to the origin of our ideas, we must unfold their formation, and trace them to the limits which nature has prescribed, to the end that we may fix the extent and boundaries of our knowledge, and new model as it were the whole frame of the human understanding.

This inquiry cannot be carried on with success but by the way of observation; and our only aim should be to discover a fundamental experiment which no one can question, and will be sufficient to explain all the rest. It ought sensibly to point out to the source of our ideas, to the materials of which they are formed, the principle which sets them in motion, the instruments employed about them, and the manner in which we should apply them. I think I have found the solution of all these problems in the connection of ideas, either with signs, or with one another: whether I am right the reader will judge in proportion as he advances in the perusal of this work.

My purpose therefore is to reduce to a single principle whatever relates to the human understanding, and this principle shall neither be a
vague

INTRODUCTION. 7

vague proposition, nor an abstract maxim, nor a groundless supposition, but a constant experience, all the consequences of which shall be confirmed by new observations.

The ideas are connected with the signs, and it is only by this means, as I shall prove, they are connected with each other. Hence it is that after touching upon the materials of our knowledge, the distinction of the soul and body, and the different sensations, I have been obliged, in order more fully to explain my principle, not only to follow the workings of the mind through all their gradations, but likewise to inquire in what manner we have contracted the habit of signs of every kind, and what use we ought to make of them.

In order to execute this undertaking, I have traced things as high as possible. On the one hand, I have ascended to perception, because it is the first operation we observe in the mind; and I have shewn how, and in what order it produces every other operation of which we can acquire the act and habit. On the other hand, I have begun with the language of action: here the reader will see how it has produced every art proper to express our thoughts; such as gesture, dancing, speech, declamation, arbitrary marks for words or things, pantomimes, music, poetry, eloquence, writing, and the different

8 INTRODUCTION.

characters of language. This history of language will disclose the circumstances in which the signs were invented, will shew the true meaning of them, will help to prevent the abuse they may be turned to, and, in my opinion, will remove all doubt concerning the origin of our ideas.

At length after laying open the progression of mental operations, as well as that of language, I have attempted to point out the means by which we may avoid falling into error, and to shew the order we ought to follow, either in endeavouring to make discoveries, or instructing others concerning those we have already made. Such is the general plan of this essay.

It often happens that a philosopher declares himself on the side of truth, without knowing it. He sees an opinion hitherto abandoned, and he adopts it, not because it appears the best grounded, but with the expectation of becoming the founder of a new sect. And, indeed, the novelty of most systems has generally secured their success.

This perhaps was the motive which induced the Peripatetics to assume as a principle, that all our knowledge is derived from the senses. So far were they from having any certainty of this truth, that not one of them could ever explain it,

INTRODUCTION. 9

It, and after a long succession of ages, the discovery was not yet made.

My lord Bacon is perhaps the first who perceived this truth: it is the foundation of a work, in which he lays down excellent rules for the advancement of knowledge *. The Cartesians rejected this principle with contempt, because they judged of it only from the writings of the Peripatetics. At length Mr. Locke seized upon it, and has the honour of being the first to demonstrate it.

And yet this philosopher does not seem to have made it the principal object of the *essay*, which he has left *on the human understanding*. He fell upon it occasionally, and so continued to do as opportunities offered. And though he was sensible that a work written after that manner must disgust the judicious, yet he had not, as he says himself, either courage or leisure to model it a-new †. To this we may attribute the tediousness, the repetitions, and confusion which prevail throughout the work. Locke was very capable of amending these defects, and this is what perhaps renders him more inexcusable. He saw, for instance, that the consideration of words, and of our manner of using them, might give some light into the principle of our ideas ‡:

* Nov. org. scient.

† See his preface.

‡ L. 3. c. 8. §. 1.

but

10 INTRODUCTION.

but because he perceived it too late *, he handled this subject in his third book, which ought to have been discussed in the second. If he could have prevailed upon himself to recommence the subject, there is reason to presume, he would have given a far better explication of the springs of the human understanding. But through neglect of this, so far is he from searching deeply into the origin of human knowledge, that he touches the subject but very slightly. He supposes, for instance, that when once the understanding is stored with ideas by means of the senses, it has the power to repeat, compare, and unite them, even to an almost infinite variety, and so can make at pleasure new complex ideas †. But it is beyond all doubt that in our infancy we have had sensations, long before we could derive any ideas from them. Thus, the soul not having had immediately and from the first instant the exercise of all its operations, it was a point of the utmost consequence, for the better unfolding the origin of knowledge, to shew in what manner she acquires this exercise, and what progress she makes in it. Locke does

* I must confess then, that when I first began this discourse of the understanding, and a good while after, I had not the least thought that any consideration of words was at all necessary to it. L. 3. c. 9. §. 21.

† L. 2. c. 2. §. 2.

INTRODUCTION. II

not seem to have even thought of this, nor does it appear that any one ever charged him with the omission, or endeavoured to supply this part of his work. Nay, perhaps the design of explaining the origin of the operations of the mind, by deriving them from a simple perception, will appear so new, that the reader will have a difficulty to comprehend, in what manner I shall execute it.

Locke in the first book of his essay examines into the opinion concerning innate ideas. Perhaps he has dwelt too long on the refutation of this error ; the following work will explode it indirectly. In some parts of the second book, he treats but in a superficial manner, of the operations of the mind. In the third he inquires into words, and he seems to be the first that ever handled the subject like a philosopher. And yet I have thought proper to make this same subject a considerable part of the following work, as well because it may be viewed in a new and more extensive light, as because I am convinced that the use of signs is the principle which unfolds all our ideas as they lye in the bud. But among many excellent things which Locke says in his second book, concerning the formation of several sorts of ideas, such as space, duration, &c. and in his fourth book intituled *of knowledge*, there are several articles which

which I am very far from approving ; but as they belong more particularly to the extension of our ideas, they do not come under my plan, and therefore it is needless for me to dwell long upon them.



And yet I have thought proper to make this same subject a considerable part of the following work, as well because it may be viewed in a new and more extensive light, as because I am convinced that the use of figures is the principle which unites all our ideas in the eye in the last. But among many excellent things which Locke lays in his second book, concerning the formation of several sorts of ideas, such as space, duration, &c. and in his fourth book, indeed of knowledge, there are several articles which



AN

ESSAYS

CONCERNING THE

ORIGIN

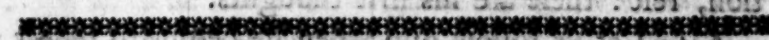
OF

HUMAN KNOWLEDGE.



PART. I.

Of the materials of our knowledge, and particularly of the operations of the mind.



SECTION. I.



CHAP. I.

Of the materials of our knowledge, and of the distinction between soul and body.

§ 1. ¶ Hether we soar, metaphorically speaking, into the highest heavens, or whether we descend into the profoundest abyfs, we cannot go out of ourselves; for all we perceive is nothing more than our own proper thoughts. Whatever knowledge we

I

may

may boast, yet if we trace it to its origin, we shall arrive at length at a first simple thought, which has been the object of a second, and this of a third, and so on. It is this order of thoughts we must develop, if we have a mind to understand our ideas of things.

§ 2. It would be of no use to inquire into the nature of our thoughts. The first reflection we make on ourselves is sufficient to convince us, that we have no possible means of satisfying this inquiry. Every man is conscious of his thought; he distinguishes it perfectly from every thing else; he even distinguishes one thought from another; and that is sufficient. If we go any further, we stray from a point which we apprehend so clearly, that it can never lead us into error.

§ 3. Let us consider man the first moment of his existence; his mind immediately feels different sensations; such as light, colours, pain, pleasure, motion, rest: these are his first thoughts.

§ 4. Let us follow him when he begins to reflect on the effect which the sensations produce within him, and we shall find him forming ideas of the different operations of his mind, such as to perceive, to imagine: these are his second thoughts.

Thus according as external objects affect us, we receive different ideas by means of the senses; and according as we reflect on the operations which the sensations produce within our minds, we acquire such ideas as we could not receive from external objects.

§ 5. The sensations therefore, and the operations of the mind, are the materials of all our knowledge; materials which our reflection employs, when by compounding

pounding it seeks for the relations which they contain. But the whole success depends on circumstances which occur to us in our passage through life, the most favourable of which are those that offer themselves to us in greatest number, from such objects as are most proper to exercise our reflection. For example, those important circumstances which occur to persons who are destined to govern mankind, afford an opportunity of forming very extensive views; and those which continually present themselves in high life, produce those sort of talents we call natural, because not being the fruit of study, we cannot point out the cause from whence they arise. Let us therefore conclude that there are no ideas but such as are acquired: the first proceed immediately from the senses; the others are owing to experience, and increase in proportion as we become capable of reflecting.

§ 5. The stain of original transgression has rendered the soul so dependent on the body, that many philosophers have confounded these two substances. They imagined that the former is nothing more than that part of the body which is finer and more subtil than the rest, and so more capable of motion: but this opinion is a consequence of the little care they had to reason from exact ideas. For I ask them what they understand by body. If they answer with precision, they will not say that it is a single substance; but they must look upon it as an assemblage of substances. If thought therefore be a property belonging to body, it must be either as it is an assemblage and aggregate, or because it is a property of each substance of which this aggregate is composed.

Now these words, *assemblage* and *aggregate*, signify only an external relation betwixt several things, a manner of existing, dependently of one another. By this union we consider them as forming one single whole, though in reality they are no more *one*, than if they were separated, and at distance. Consequently, they are only abstract terms, which do not suppose a single substance, but a multitude of substances. The body therefore, as an *assemblage* and *aggregate*, cannot be the subject of thought.

Shall we divide thought among the several substances of which the body is composed? In the first place, this is impossible, if thought be only a single and indivisible perception. Secondly, We must also reject this supposition, even if thought were formed of a certain number of perceptions. Let A, B, C, three substances, which compose the body, divide three different perceptions amongst them; I ask, where shall we fix the place for comparing these three perceptions with one another. Not in A, because it could not compare a perception which it has, with those which it has not. For the same reason it must not be in B, nor in C. We must therefore admit of a point of re-union, a substance which at the same time shall be a simple and indivisible subject of these three perceptions; consequently distinct from the body; in one word, a soul.

§ 7. I know not how Mr. Locke † came to assert, that it is impossible for us to discover whether omnipotency has not given to some systems of matter, fitly disposed, a power to perceive and think. We

† Essay on human understanding, l. IV. c. 3.

must not imagine, that to resolve this question, it is necessary to know the essence and nature of matter. The arguments founded on this ignorance are altogether frivolous. It is sufficient to observe, that the subject of thought must be *one*. Now a system or heap of matter is not *one*, but a multitude *.

§ 8. The soul being distinct and different from the body, the latter can be only occasionally the cause of what it seems to produce in the former. From whence we must conclude, that the senses are only occasionally the source of our knowledge. But whatever is only occasioned by a thing, may be done without it; because in fact it depends on its occasional cause only in a certain case. The soul may therefore absolutely acquire knowledge, without the assistance of the senses. Before the fall, it was under a quite different system from the present. Free from ignorance and concupiscence, it had a command

* In opposition to what has been here said, some have objected, that the property of marking time is indivisible. For it cannot be said to be divided among the wheels of a watch; it is in the whole. Why then may not the property of thinking be in an organized whole? I answer, that the property of marking time, may in its nature belong to a compound subject; because as time is only a succession, whatever is capable of motion, may measure it. Another objection is, that unity is applicable to an assemblage of matter fitly disposed; though it cannot be applied to it, when the confusion is so great as to hinder us from considering it as a whole. I agree; but I must add, that unity is not then taken in its exact and rigorous sense. It is taken for a unit composed of other units; consequently it is, properly speaking, an assemblage, or a multitude; now it is not of this unity, improperly so called, that I intend to speak.

over its senses, and suspended or modified their operation as it pleased : consequently it had ideas precedent to the use of its senses. But things are greatly changed through its disobedience. God has deprived it of this command ; so that it is become as dependent on the senses, as if they were the physical cause of what they only occasion ; and it has no knowledge but what is conveyed by this channel. Hence arise ignorance and concupiscence. It is this state of the soul which I purpose to inquire into ; the only one that can properly be the object of philosophy, since it is the only one made known to us by experience. Whenever therefore I happen to say, *that we have no ideas but what come from the senses*, it must be remembered, that I speak only of the state into which we are fallen by sin. This proposition applied to the soul before the fall, or after its separation from the body, would be absolutely false. I do not treat of the knowledge of the soul in the two extreme states ; because I cannot reason but, from experience. Besides, if it be of great importance, which no reasonable person can deny, to know those faculties with which God has been pleased to leave us possessed, notwithstanding the transgression of our first parents ; it is of very little signification to inquire into those of which he has deprived us, and which are not to be restored to us till we arrive to a glorious immortality.

I confine myself therefore, in the following work, to the present state of humanity. Our business is not to consider the soul as independent of the body, since its dependence is but too well established ; nor as united to the body in a different system from that
of

of the present frail and mortal life. Our only view must be to consult experience, and to reason only, from facts, which no one can call in question.

CHAP. II.

Of Sensations.

§ 9. **I**T is evident, that the ideas which we call *sensations*, are of such a nature, that if we had been deprived of our Senses, we should never have been able to have acquired them. Hence no philosopher ever asserted that they were innate; this would have been plainly contradicting experience. But it has been said, that they are not ideas; just as if they were not in themselves as representative as any other thought of the soul. The sensations have therefore been considered only as something that comes after, and that modifies our ideas; an error on which several extravagant and unintelligible systems are founded.

A very slight attention must convince us, that when we perceive light, colours, or solidity, these and the like sensations are more than sufficient to give us all the ideas which we generally have of bodies. For is there, in fact, any idea not included in those first perceptions? Do not we find in these the ideas of extension, figure, place, motion, rest, &c.?

Let us therefore reject the hypothesis of innate ideas, and suppose that God has given us only, for instance, the perceptions of light and colour.

Will not these represent even to our eyes the ideas of extension, of lines, and figures? But it will be objected, that we cannot be sure by our senses, whether these things are really such as they appear: therefore we have not the ideas of them from the senses. How strange a consequence! Can we have any greater certainty from innate ideas? What does it signify whether the senses can give us any certain knowledge of the figure of a body or not? The question is, whether, even when they deceive us, they do not convey the idea of a figure. I see one, for instance, which I take to be a pentagon, though on one of its sides it forms an imperceptible angle. This is an error: but, for all that, does it not convey to my mind the idea of a pentagon?

§ 10. And yet the followers of De Cartes and Mallebranche make such a loud cry against the senses, and repeat to us so often, that they produce nothing but error and delusion; that a great many are apt to look upon them as an obstacle to knowledge, and through a mistaken zeal for truth, would be glad, if possible, to be divested of them. Not that the complaints of those philosophers are absolutely without foundation: they have so ingeniously exposed a multitude of errors on this very subject, that we cannot, without injustice, deny the obligations we owe them. But is there no medium? Cannot we find in our senses a source of truth, as well as of error; and distinguish them so clearly, as to have always recourse to the former? This is a point indeed worthy of inquiry.

§ 11. And first of all, it is very certain, that nothing is more clear and more distinct than our perception,

ception, when we feel some particular sensations. What can be more clear and distinct than the perceptions of sound and of colour? Do we ever confound these ideas? But if we are desirous to inquire into their nature, and to know in what manner they are produced within us; we must not begin, by saying that our senses deceive us, or that they give us confused and obscure ideas: the least reflection is sufficient to refute such an assertion.

And yet, let the nature of these perceptions be what it will, and let them be produced as they will, if we look amongst them for the idea of extension, for instance, of a line, of an angle, and any other figure, we shall find it in that repository very clearly and distinctly. If we afterwards look for the thing to which we attribute this extension, and these figures, we shall perceive still as clearly and distinctly that it belongs not to us, nor to that which, within us, is the subject of thought, but to something without us.

But if we want to find, in these perceptions, the idea of the absolute magnitude of certain bodies, or even of their relative magnitude, and proper figure, we shall have reason to suspect the information they give us. According as the object is more or less distant, the appearances of size and figure, in which it will shew itself, shall be intirely different.

We must therefore distinguish three things in our sensations. 1°. The perception which we feel. 2°. The application we make of it to something without us. 3°. The judgment, that what we apply or attribute to those things, really belongs to them.

There is neither error, nor obscurity, nor confusion in what passes within us, nor in the application we make to that which is without us. If we reflect, for instance, that we have ideas of a particular magnitude and figure, and that we attribute them to a particular body; all this is real, clear, and determinate. Here it is that all truths whatsoever have their source. If error afterwards follows, it is only because we judge that such size, and such figure really belong to such a body. If, for example, I see at a distance a square building, it will appear to me to be round. Is there then any obscurity or confusion in the idea of rotundity, or in my applying it? No: but I judge this building to be round, and there lies the mistake.

When I say that all our knowledge proceeds from the senses, we must not forget that this is to be understood so far as this knowledge is derived from the clear and distinct ideas which those senses contain. As to the judgments which accompany them, they can be of no service to us, till their defects have been corrected by experience and reflection.

§ 12. What has been said concerning extension and figures, is equally applicable to the other ideas of sensations; and may resolve the following question of the Cartesians, viz. whether colours, and odours, &c. are in the objects themselves.

There is no manner of doubt but that there are qualities in bodies, which occasion the impressions they make on our senses. The difficulty some pretend to raise, is whether these qualities bear a resemblance or likeness to what we feel. What embarrasses us here is this, that as we perceive within us the idea
of

of extension, and we see no inconveniency in supposing something like it in bodies; we are apt to imagine that there is also in bodies something that resembles the perceptions of colours, odours, &c. This is a precipitate judgment, founded only on this analogy, and of which in reality we know nothing.

The notion of extension, stript of all its difficulties, and considered in the clearest light, is no more than the idea of several beings which to us appear one without the other *. This is the reason that, supposing something without us conformable to this idea, still the representation is as clear as if we considered it in the idea itself. It is quite otherwise in regard to colours, odours, &c. for so long as we reflect on these sensations, and consider them as belonging to ourselves, we have very clear ideas of them. But when we come to divorce them, as it were from ourselves, and to enrich the objects with them, we then begin to do we know not what. We are carried to attribute them to the objects, for no other reason but this, that on the one hand we are obliged to suppose something there that occasions them; and on the other, this cause is absolutely unknown to us.

§ 13. It would be idle in this case to have recourse to the terms of obscure and confused ideas or sensations.

* And united, say the Leibnitzians. But this is of no manner of use, when we talk of extension in the abstract. We cannot represent separate beings to ourselves, without supposing others which separate them, and the totality, or whole, implies the idea of union.

Such language ought not to be admitted among philosophers, who can never be too exact in their expressions. If you say that a picture bears an obscure and confused resemblance, explain your meaning, and you will see that in some parts it is like the original, in others it is not. It is the same with each of our perceptions: what they really contain is clear and distinct; and what we suppose to be obscure and confused does not at all belong to them. We cannot say of them, as of a picture, that they have only a partial resemblance. Each is so simple, that whatever bears any relation of equality to them is equal in every respect. For this reason I think, that to have clear and distinct ideas is, in a more concise way of speaking, really to have ideas; and to have obscure and confused ideas, is to have none at all.

§ 14. What makes us imagine that our ideas are susceptible of obscurity, is that we do not sufficiently distinguish them from the expressions commonly used. We say, for instance, that *snow is white*; and we frame a thousand such judgments, without ever thinking of removing the ambiguity of words. Thus because our judgments are expressed in an obscure manner, we imagine that this obscurity falls on the judgments themselves, and on the ideas which compose them: but a definition would set the whole to right. *Snow is white*, if by *whiteness* we understand the physical cause of our perception: but it is not white, if by *whiteness* we mean something that resembles the perception itself. These judgments therefore are not obscure, but

SECT. I. HUMAN KNOWLEDGE.

33

but are true or false according to the meaning of the words.

There is another motive that induces us to admit of this unphilosophic language of obscure and confused ideas; this is the itch we have of knowing a great deal. It seems to be a kind of consolation to our curiosity, if we may be allowed to have at least an obscure and confused knowledge. Hence it is that it sometimes gives us pain to find that our ideas indeed fail us *.

It has been proved by others, that colours, smells, &c. are not in the objects themselves. But I think their arguments do not give full satisfaction to the mind. I have therefore taken a different road, from a persuasion, that in these, as well as in other matters, it was sufficient to explain our ideas, in order to determine which opinion deserves the preference.

* Locke admits of ideas clear and obscure, distinct and confused, true and false. But it appears, from his own explanations, that we differ only in the manner of expressing ourselves. That which I make use of has the advantage of being clearer and simpler. For this reason it ought to have the preference; because nothing but the simplicity of language can prevent the abuses of it. This whole work shall be a proof of it.

SECTION

SECTION II.

The analysis and origin of the operations of the mind.

WE may distinguish the operations of the mind into two sorts, according as they relate more particularly to the understanding or to the will. The subject of this essay plainly shews that my purpose is to consider them only in the relation they bear to the understanding.

I shall not content myself with defining them: my design is to examine them in a point of light which will throw more lustre on them than they have yet received. The business is to unfold their gradual progression, and to shew in what manner they are all derived from one fundamental, and *simple* perception. This research alone is of more use than all the rules of the logicians. For how indeed could we be ignorant of the manner of conducting the operations of the mind, if we were once well acquainted with their origin? But all this quarter of metaphysics has hitherto lain involved in such obscurity and confusion, that I have been obliged to frame to myself, in some measure, a new language. It was impossible for me to be exact, and at the same time to employ such undeterminate signs as vulgar use has adopted. This however will render me more easy to be understood by those who shall read me with attention.

CHAP. I.

Of perception, consciousness, attention, and reminiscence.

§ 1. **T**HE perception or the impression caused in the mind by the agitation of the senses, is the first operation of the understanding. The idea of it cannot be acquired by any discourse or words whatsoever; nothing can convey it to us but the reflexion on what passes within us, when we are affected by some extraneous impression on the senses.

§ 2. In vain would outward objects sollicit the senses, the mind would never have any knowledge of them, if it did not perceive them. Hence the first and smallest degree of knowledge, is perception.

§ 3. But since perception arises only from the impressions made on the senses, it is certain that this first degree of knowledge ought to have more or less extent, according as men are organized to receive a greater or less variety of sensations. Suppose some creatures deprived of sight, others of sight and hearing, and so on successively; you shall have creatures, which by being deprived of every sense, become incapable of attaining any knowledge at all. On the contrary, suppose, if possible, new senses unknown to man in some animals more perfect than man, what a fund will there be for new perceptions! and consequently what stores of various knowledge within their reach, which we can never attain unto, and concerning which we cannot even so much as form any reasonable conjecture!

§. 4.

§. 4. Our inquiries are sometimes more difficult, in proportion as the object of them is more simple. Our very perceptions are an instance of this. What is more easy in appearance than to determine whether the soul takes notice of all those perceptions by which it is affected? Need there any thing more than to reflect on one's self? Doubtless all philosophers have done it; but some of them prejudiced by their principles, have admitted perceptions of which the mind never takes any notice*; and others have looked upon this opinion as altogether unintelligible†. I shall endeavour to decide this question in the following paragraphs. It is sufficient here to observe, that every body allows those perceptions to be in the mind, which the mind knows it has. Now that perception which gives it this knowledge, and informs it at least in part of what passes within itself, I shall call *consciousness*. If, according to Locke, the soul has no perceptions of which it does not take notice, inasmuch as it must imply a contradiction that a perception should be unobserved, perception and consciousness ought then to be taken for one and the same operation. If on the contrary the other opinion were true, they would be two distinct operations, and our knowledge would then properly begin from consciousness, and not, as I have supposed, from perception.

§. 5. Among several perceptions of which we have a consciousness at the same time, it frequently happens that we are more conscious of one than the other, or more strongly apprized of their existence.

* The Cartesians, Mallebranchists, and Leibnitzians.

† Locke and his followers.

Nay the more the consciousness of some increases, the more that of others diminishes. Let a person be at a public entertainment, where a variety of objects seem to dispute his attention, his mind will be attacked by a number of perceptions, of which it certainly takes notice; but insensibly some of these will be more agreeable and engaging to him than others, and of course he will more willingly give way to them. As soon as that happens, he will begin to be less affected by the others, his consciousness of them will even insensibly diminish, insomuch that upon his coming to himself he shall not remember to have taken any notice of them. Of this we have a strong proof in the deception we are subject to at the theatre. There are some moments in which our consciousness does not seem to be divided between the action represented, and the rest of the entertainment, by which I mean, the theatre, the audience, the actors &c. One would think at first that the deception ought to be stronger, in proportion as there are fewer objects capable of diminishing our attention. And yet every man may have observed, that we are never more inclined to think ourselves single spectators at a moving scene, than when the house is full. Perhaps this is because the number, variety, and magnificence of the objects strike the senses, elevate the imagination, and render us thereby more fit to receive the impressions which the poet intends to give us. Perhaps it is also owing to this, that the spectators are mutually encouraged by the example they set each other, of fixing their eyes on the stage. Be that as it may, this operation by which our consciousness concerning particular

particular perceptions is so greatly increased, that they seem to be the only perceptions of which we take notice, I call *attention*. Thus to be attentive to a thing, is to be more conscious of the perceptions which it occasions, than of those which other objects produce by solliciting our senses in the same manner; and our attention is in proportion greater, as we have less remembrance of the latter.

§ 6. I distinguish therefore two sorts of perceptions among those we are conscious of; some which we remember at least the moment after, others which we forget the very moment they are impressed. This distinction is founded on the experience just now given. A person highly entertained at a play shall remember perfectly the impression made on him by a very moving scene, though he may forget how he was affected by the rest of the entertainment.

§ 7. There are two opinions on this point different from mine. The first is, that the mind has not felt, in my supposition, those perceptions which I pretend it so quickly forgets; and this they attempt to explain by reasons drawn from natural philosophy. It is indubitable, say they, that the soul perceives, only as the action of the objects upon the senses is communicated to the brain*. Now one might suppose the fibres of the brain so overheated by the theatrical illusion, as to resist every other impression. From whence we may conclude that the soul has no other perceptions, than those which it remembers.

* Or, if you please, to that part of the brain which is called *sensorium commune*.

I But it is not at all probable, that when we give our attention to an object, all the fibres of the brain should be equally agitated, so as not to leave a great many others capable of receiving a different impression. We have therefore sufficient reason to presume, that there are perceptions in our mind, which we do not remember, not even the very moment after their impression. What has been here mentioned only as a presumption, shall be presently demonstrated even in regard to the greatest part of them.

§ 8. The second opinion is, that there are no impressions ever made on the senses, without being communicated to the brain, and which consequently do not produce a perception in the mind. But they add that it is without consciousness, or that the mind takes no notice of it. Here I declare myself for Locke; for I have no notion of such a perception; one might as well say that I perceive without perceiving.

§ 9. My opinion therefore is, that we are always conscious of the impressions made on the soul; though sometimes in so superficial a manner that a moment afterwards we remember nothing more of them. A few examples will fully illustrate my notion on this subject.

I confess there was a time when I believed that we had perceptions within us, of which we had no consciousness. My opinion was founded on the following experiment, which appears to be very plain and simple, viz. that we shut our eyes a thousand times, without seeming to take notice that we are in the dark. But other experiments sufficiently convinced

vinced me of my error. Some perceptions which I had not forgot, and which necessarily supposed that I had had others which I did not remember the moment after their impression, induced me to alter my sentiment. Among several experiments, the following is one of the most striking.

If we reflect on ourselves the moment after we have been reading, it will appear to us as if we had had no consciousness but of the ideas which that reading has produced. We shall no more imagine that we had a perception of every letter, than that we have a perception of darkness so often as we involuntarily close our eyelids. But this appearance cannot impose upon us, when we come to reflect that without a consciousness of the perception of letters, we should not have been conscious of the words, nor consequently of the ideas.

§. 10. This example leads us naturally to account for a thing which every man hath experienced; namely, the surprizing rapidity with which time seems now and then to have elapsed. This appearance is owing to our having forgot the most considerable part of the perceptions that have succeeded each other within our minds. Locke has shewn that we form an idea of the succession of time, merely by the succession of our thoughts. Now all perceptions the moment they are forgotten, are just as if they had never existed. Their succession must therefore be struck out of our measure of duration. Consequently a very considerable succession of hours, for example, must seem to us to have passed away like so many moments.

§ 11. This explication frees me from the trouble of producing new examples: for it will furnish a sufficient number to those who chuse to reflect upon it. Every man may observe that among the perceptions he has felt during a certain space of time which to him appears to have been very short, there are a great number which his conduct sufficiently proves him to have been conscious of, though he has now intirely forgot them. Notwithstanding it is not every example of this sort which is equally proper to illustrate this matter. The not reflecting on that occasioned my mistake, when I fancied that I involuntarily shut my eyelids, without taking notice that I was in the dark. But there is nothing more reasonable than to explain one example by another. My mistake proceeded from this, that the perception of darkness was so quick and sudden, and the consciousness of it so weak, that it was quite cancelled out of my memory. But indeed if I give any attention to the movement of my eyes, this very perception becomes so lively, that I no longer doubt of my having had it.

§ 12. We not only forget in the ordinary course of things a part of our perceptions, but sometimes we forget them all. When we do not fix our attention, but receive the perceptions produced within us, in such a manner as not to take more notice of one than of the other, the consciousness of them is so very slight, that upon quitting that state, we do not remember to have felt any impression at all. Suppose an historical picture is set before me, the particular parts of which do not strike me at first sight one more than the other, and that it is taken away

before I have time to examine it minutely; it is certain that there is not one of its visible parts, but has produced some perceptions in me, though the consciousness of them has been so very weak, that I retain no idea of them. This oblivion is not owing to the shortness of their duration. For supposing even that I have had my eyes for a long time fixed on this picture, yet if I have not quickened the consciousness of the perceptions of each part one after another, I shall be no more capable of giving any account after a view of several hours, than the first instant.

What has been here observed in regard to the perceptions caused by this picture, must for the same reason hold good in reference to those produced by the several objects around me. If acting upon the senses with an almost equal force, they produce perceptions in my mind, all of them very near in the same degree of vivacity; and if I yield to the impression they make, without striving to have a greater consciousness of one perception than another, I shall retain no idea at all of what has passed within me. It will appear to me as if my understanding had been all this time in a kind of lethargy, without employing itself in any one thought. Whether this situation continues many hours or only some seconds, I shall not be able to point out the difference in the series of those perceptions which I have felt, because they are alike forgot in both cases. Even if it was made to continue days, months or years, the consequence would be, that as soon as I was awakened out of it by some lively sensation, I should recollect a succession of years only as a single moment.

Sect. 2. HUMAN KNOWLEDGE. 35

§ 13. Let us therefore conclude that we are incapable of giving any account of the greatest part of our perceptions, not because we were not conscious of them, but that we forgot them the next moment. There are therefore no perceptions in the mind, of which it does not take notice. Hence perception and consciousness are only the same operation under different names. Considered only as an impression on the mind, we may continue to give it the name of perception; as it renders us sensible of its presence, we may call it consciousness. And it is in this sense I shall hereafter make use of these two words.

§ 14. Our attention is drawn by external objects, in proportion as they are more relative to our constitution, passions, and state of life. It is these relations that are the cause of their acting upon us with greater force, and that we have a livelier consciousness of them. To this it is owing, that when a change is made in us, we view the same objects differently, and form quite contrary judgments of them. Men are generally so apt to be deceived by this sort of judgments, that he who at one time sees and judges this way, and at another sees and judges differently, thinks nevertheless that both now and then he sees and judges right. And this bias becomes so natural to us, that being led thereby to consider the objects only as they regard ourselves, we never fail to censure the conduct of others, as much as we approve our own. Add to this, that self-love easily persuades us that things are estimable only in proportion to the favourable attention we have paid them; and we shall easily understand,

why even those who have discernment enough to set a right value upon things, generally speaking, place their esteem so ill, that sometimes they unjustly refuse it, and at other times they bestow it with wanton profusion.

§ 15. When objects attract our attention, the perceptions they produce within us are connected with the consideration of ourselves; and of every thing relative to us. Hence it is that consciousness not only gives us a knowledge of our perceptions; but moreover, if those perceptions be repeated, it frequently informs us that we had them before, and represents them as belonging to us, and as affecting, notwithstanding their variety and succession, a being that is always the same *self*. Consciousness, considered in regard to these new effects, is a new operation, which serves us every instant, and is the foundation of experience. Without it each moment of our life would seem the first of our existence, and our knowledge would never extend beyond a first perception. I shall call it *remembrance*.

Evident it is that if the connection subsisting between the perceptions which I actually feel, those which I felt yesterday, and the consciousness of my being, were destroyed, I should be incapable of knowing that what happened to me yesterday happened to myself. If this connexion were interrupted every night, I should begin, as it were, a new life every day, and nobody could convince me that I am the same individual person to-day as yesterday. Remembrance is therefore produced by that link or chain which preserves the series of our perceptions. In the following chapters the effects of this chain or connexion

nexion will be still more clearly explained. But if any one should ask me how that chain itself can be formed by attention, I answer, that the reason thereof is to be found only in the nature of the soul and body. Hence I consider this connexion as a first and fundamental experience, which has a right to be considered as sufficient to explain every other.

In order to make a better analysis of reminiscence, we should, of right, give it two names; one under the consideration of its reminding us of our being; the other of its rendering us sensible of the perceptions there repeated: for these are very distinct ideas. But language does not furnish me with a word that I can venture to make use of; and it is of very little service to my design to invent one on purpose. It will suffice to have observed of what simple ideas the complex notion of this operation is compounded.

§ 16. The progress of the operations, whose analysis and origin have been here explained, is obvious. At first, there is only a simple perception in the mind, which is no more than the impression it receives from external objects. Hence arise in their respective order the other three operations. This impression, considered as giving us notice of its presence or existence, is what I call consciousness. If the notice we take of it is such, that it seems to be the only perception of which we are conscious, it is properly attention. In fine, when it makes itself known as having affected the mind before, it is reminiscence. Consciousness says, as it were to the soul, you have now a perception: attention says, you have now only one single percepti-

on: reminiscence says, you have now a perception which you had before.

CHAP. II.

Of the imagination, contemplation, and memory.

§ 17. **E**Xperience shews that the first effect of attention is to make those perceptions which are occasioned by their objects to continue still in the mind, when those objects are removed. They are preserved, generally speaking, in the same order in which the objects presented them. By this means a chain or connexion is formed amongst them, from whence several operations, as well as reminiscence, derive their origin. The first is imagination, which takes place when a perception, in virtue of the connexion which attention has established between it and the object, is revived at the sight of this object. Sometimes, for instance, the bare mentioning the name of a thing is sufficient to represent it to one's self, as if it were really present.

§ 18. And yet it is not always in our power to revive the perceptions we have felt. On some occasions the most we can do is by recalling to mind their names, to recollect some of the circumstances attending them, and an abstract idea of perception; an idea which we are capable of framing every instant, because we never think without being conscious of some perception which it depends on ourselves to render general. Let us think, for example, on a
flower

flower whose smell we are not accustomed to, we shall recollect the name of it; we shall remember the circumstances of our having seen it; we shall represent to ourselves the fragrantcy of it, under the general idea of a perception that affects the smelling; but we shall not be able to revive the specific perception. Now the operation which produces this effect I call *memory*.

§ 19. There is still another operation which arises from the connexion established by the attention betwixt our ideas; this is contemplation. It consists in preserving, without any interruption, the perception, the name or the circumstances of an object which is vanished out of sight. By means of this operation we are capable of continuing to think of a thing, when it ceases to be present. This operation we may reduce, as we please, either to the imagination or to the memory; to the former, if it preserves the perception itself; to the latter, if it preserves only the name or circumstances of it.

§ 20. It is of great importance carefully to distinguish the point which separates the imagination from the memory. Every man will be able to judge of this by himself, when he comes to see what light this difference (which perhaps may be thought too simple to appear essential) will throw upon the whole matter of the generation of mental operations. What has been hitherto advanced by philosophers on this occasion, is so embarrassed and confused, that we may oftentimes apply to the memory what they say of the imagination; and so *vice versa*. Locke himself makes the memory to consist in the power which the mind has, in many cases, to revive perceptions

it has once had, with this additional perception annexed to them, that it has had them before. And yet this is not philosophically exact; for it is beyond all doubt, that we may have the memory of a perception, without having it in our power to revive it.

The whole tribe of philosophers have fallen into the same error with Locke. Some of them, who pretend that every perception leaves an image in the mind, in the same manner almost as a seal leaves its impression behind it, are not to be excepted: for what is the image of a perception, which is not the perception itself? The mistake is owing to this, that for want of having sufficiently considered the matter, they have mistaken, for the very perception of the object, some circumstances, or some general idea, which revive themselves in its stead. To avoid such mistakes, I shall here distinguish the different perceptions we are capable of feeling, and examine them each in their proper order.

§ 21. The ideas of extension are those which we revive the most easily; because the sensations from which we derive them, are such as it is impossible for us to be without, so long as we are awake. The taste and smell may not be affected; we may be without hearing any sound, or seeing any colour: but sleep alone can deprive us of the perceptions of touch. The body must be supported by something, and the several parts must weigh one upon the other. Hence arises a perception which represents them to us as distant and limited; and which consequently implies the idea of some extension.

Now this idea we may render general, by considering

ing it in an indeterminate manner. We may afterwards modify it, and draw from it, for example, the idea of a strait or curve line. But we cannot exactly revive the perception of the magnitude of a body, because we have no absolute idea upon this head, which may serve as a fixed measure. On this occasion the mind recollects only the names of foot, fathom, &c. with an idea of magnitude so much the more indeterminate, as the idea it wants to represent to itself is more considerable.

With the assistance of these first ideas, we may, in the absence of objects, exactly represent to ourselves the most simple figures; such as triangles and squares. But if the number of the sides considerably increases, our efforts then will prove fruitless. If I think on a figure of a thousand sides, and on another of nine hundred and ninety nine, I do not distinguish them by perceptions, but by the names which I have given them. It is the same in regard to all other complex ideas. Every man may observe, that when he wants to make use of them, he recollects only their names. As to the simple ideas which they include, he cannot revive them but one after the other, and this we must attribute to an operation different from the memory.

§ 22. The imagination naturally avails itself of whatever is capable of affording it any assistance. It is by a comparison with our own shape and figure that we represent to ourselves the shape and figure of an absent friend, and we imagine him tall or low, because we measure, as it were, his size with our own. But the imagination is chiefly assisted by order and proportion; because there it finds different points on
which

which it fixes, and to which it refers the whole. If I think on a fine countenance; the eye, or some other feature which has struck me most, will recur to me the first: and relatively to these first features the rest will be arranged in my imagination. We therefore imagine a figure or shape with more ease, in proportion as it is more regular. We might even say that it is more easy to see; because the very first glance is sufficient to form an idea of it. On the contrary, if it be very irregular, we shall not be able to represent it to our view, till after having for a long while considered its different parts.

§ 23. When the objects which occasion the sensations of taste, of sound, of smell, of colour, and light, are absent; we have no perception left which we can modify, to form something like the colour, the taste, and the smell, for instance, of an orange. Neither is there any order or proportion to assist the imagination. These ideas cannot therefore be revived, without having been rendered familiar to us. For this reason the ideas of light and colour must be the most easily revived, and afterwards those of sounds. With regard to smells and tastes, we revive only those for which we have had a particular liking. Consequently many perceptions remain, which we may recall to mind, and yet we recollect only their names. How often does this happen even in regard to such perceptions as are most familiar to us, especially in conversation, when we are frequently satisfied with mentioning things without representing them to our imagination?

§ 24. We may observe different degrees of force in the imagination.

If we want to revive a perception which is not familiar to us, such as the taste of a fruit of which we have eaten but once, our endeavours will terminate, generally speaking, in causing a kind of concussion in the fibres of the brain and of the mouth; and the perception shall bear no resemblance to the taste of that fruit. It would be the same in regard to a melon, to a peach, or even to a fruit of which we had never tasted. The like remark may be made in respect to the other senses.

When a perception is familiar to us, the fibres of the brain accustomed to yield to the sollicitation of the objects, are more ready to comply with our desires. Sometimes our ideas are revived without any concurrence on our part, and present themselves with such vivacity, that we are misled by them, imagining we have the objects before our eyes. This is the case in regard to madmen, and to those who are in a dream. These irregularities probably are owing to the near relation there is between those movements which are the physical cause of the imagination, and those which cause the perception of the object when present*.

* I suppose here, and in other places, that the physical cause of the perceptions of the mind is the concussion of the fibres of the brain: not that I look upon this hypothesis as demonstrated, but that it seems the best adapted for explaining my thought. If this is not the way they are produced, it must be in some other, not very different manner. For the brain can be acted upon only by motion. Therefore, whether we suppose the perceptions are occasioned by the concussion of the fibres, or by the circulation of the animal spirits, or by some other cause; it is all the same to the purpose of this discourse.

§ 25. Between the imagination, the memory, and reminiscence, there is a certain progress, by which alone they are distinguished. The first renews the perceptions themselves; the second brings to our minds only their signs or circumstances; the third makes us discern them as perceptions which we have had before. And here it may be proper to observe, that the same operation which I call memory, in regard to those perceptions of which it revives only the signs or circumstances, is imagination in respect to the signs or circumstances revived; since these signs and circumstances are perceptions. As to contemplation, it participates of the nature of imagination or memory, according as it preserves the very perceptions of an absent object on which we continue to think, or as it retains only its name, and the circumstances in which we have seen it. From both it differs, only in as much as it supposes no interval between the presence of an object, and the attention with which we still view it when absent. These differences will perhaps appear very small, yet they are absolutely necessary. It is in this case as in numbers, where the neglecting of a fraction, as a thing seemingly of no consequence, infallibly draws us into false calculations. And there is reason to fear that those who treat this exactness as a metaphysical subtilty, will never be able to attain that just method of reasoning so necessary in the sciences.

§ 26. By observing, as I have done, the difference between these perceptions which never leave us but when we are asleep, and those which, even when awake, we experience only by intervals, we may immediately see how far our power of reviving them extends:

extends: we may see why the imagination at pleasure revives the simpler figures, while we are incapable of distinguishing others more compounded, but by the names recollected by our memory: we may see why the perceptions of colour, of taste, &c. are not subordinate to our command, unless they are familiar to us; and in what manner the vivacity with which the ideas are renewed, is the cause of dreams, and of madness: in fine we sensibly perceive the difference which ought to be made between the imagination and the memory.

C H A P. III.

In what manner the connexion of ideas, formed by the attention, produces the imagination, contemplation, and memory.

§ 27. **I**N relation to what has been said in the preceding chapter, two questions might be proposed: the first, how come we to have the power of reviving some of our perceptions? the second, how comes it that when this power is wanting, we are frequently capable of recollecting at least their names or circumstances?

To begin with answering the second question, I say that we cannot recal their names or circumstances, but when they are familiar to us. Then they come within the class of perceptions subject to our command, whereof we are going to speak by answering the first question, which requires a more particular consideration.

§ 28. The connexion of ideas can arise from no other cause, than from the attention given to them, when they presented themselves conjunctly to our minds. Hence as things attract our attention only by the relation they bear to our constitution, to our passions, to our state, or, to sum up all in one word, to our wants; it follows that the same attention embraces at once the ideas of wants, and of such things as are relative to these wants, and connects them together.

§ 29. Our wants are all dependent upon one another, and the perceptions of them might be considered as a series of fundamental ideas, to which we might reduce all those which make a part of our knowledge. Over each of these series, other series of ideas might be raised, which should form a kind of chains, whose strength would intirely consist in the analogy of the signs, in the order of perceptions, and in the connection that should be formed by the circumstances which sometimes reunite the most dissimilar ideas. Want is connected with the idea of the thing proper for relieving it; this is connected with the idea of the place where it is to be had; this, with the idea of the persons we have seen there; this in fine, with the ideas of such pleasures or pains as we have felt there, and with many others. We may even observe, that in proportion as the chain extends, it is subdivided into different and smaller chains; so that the farther we remove from the first ring, the more we increase the number of these smaller chains. A first fundamental idea is connected with two or three others; each of these with an equal, or even with a greater number, and so on.

§ 30. The

§ 30. The different larger or smaller chains which I suppose to be over each fundamental idea, might be connected by a series of fundamental ideas, and by some rings which probably would be common to many; for the very same objects, and of course the same ideas are oftentimes relative to different wants. Thus all our knowledge would form only one and the same chain, whose smaller chains should reunite at particular rings, to separate at others.

§ 31. These suppositions admitted; in order to recollect the familiar ideas, it would be sufficient to be capable of giving attention to some of our fundamental ideas, with which they are connected. Now this is always feasible; because, so long as we are awake, there is not an instant in which our constitution, our passions, and our situation, do not occasion some of those perceptions which I call fundamental. We should therefore succeed therein with more or less ease, in proportion as the ideas we would willingly revive, depended on a greater number of wants, and by a more immediate connexion.

§ 32. The suppositions here made are not groundless. I appeal to experience, and am convinced that every man must acknowledge, upon observation, that he endeavours to recollect a thing*, only by the relation it bears to the circumstances he is under, and that he succeeds in proportion to the greater number of those circumstances, or to its more immediate connexion with them. The attention given

* I take the word recollect in the signification commonly used; that is for the power of reviving the ideas of absent objects, or of recalling their signs. Hence it is equally applicable to the imagination and to the memory.

to a perception that actually affects us, revives its sign: this reminds us of others to which it bears some relation: these renew the ideas with which those signs are connected: these ideas recall other signs or other ideas to our minds, and so on successively. Two friends meet, for example, who have not seen each other for a long time; the attention they give to the surprize and joy which they inwardly feel, immediately occasions those expressions of kindness with which they salute each other. They complain of their long absence; they amuse themselves with a repetition of the pleasures which they formerly enjoyed, and of the several adventures that happened to them during their separation. It is easy to perceive how all these things are connected among themselves, and with a great many others. I shall however give another example.

Let us suppose that a person proposes a difficulty to me concerning this very work, to which I am not able immediately to give a satisfactory answer; it is certain that if the difficulty is not well grounded, it must point out an answer itself. I therefore sit down to examine it thoroughly, and I find parts of it which, from being connected with some of the ideas that compose the solution I am looking for, never fail to revive them. These, by their close connexion with the others, recall them successively to my mind, and at length I see the whole answer.

Those who shall please to observe what every day happens in public assemblies, will meet with a multitude of other examples. Let the subject of conversation be changed ever so rapidly, a person in full presence of mind, and who is a little acquainted with

with the character of the company, fees by what connexion of ideas they pass from one subject to another. I therefore believe I have a right to conclude that the power of reviving our perceptions, their names, or their circumstances, proceeds intirely from the connexion which the attention has established between these things, and the wants to which they are related. Take away this connexion, and you destroy the imagination and memory.

§ 33. All men cannot connect their ideas with equal force, nor in equal number: and this is the reason why all are not equally happy in their imagination and memory. This incapacity proceeds from the different conformation of the organs, or perhaps from the very nature of the soul; therefore the reasons which might be given for it are all drawn from natural philosophy, and foreign to this work. I shall only observe that the organs are sometimes not so well fitted for the connexion of ideas, merely because of their not having been sufficiently exercised.

§ 34. The power of connecting our ideas has its inconveniences, as well as advantages. In order to render this more obvious, I will suppose two men, one who never could connect his ideas; the other who connects them with such ease and force, that he is no longer able to separate them. The first would have neither imagination nor memory, nor consequently any of the operations which these produce: he would be absolutely incapable of reflexion; nay he would be quite an idiot. The second would have too great a memory, and too lively an imagination; an excess which would be productive of almost the

E

same

same effect, as an intire privation of both. He would hardly have the use of reflexion, he would be a madman. The most heterogeneous ideas being strongly connected in his mind, for no other reason but because they presented themselves together; he would judge them to be naturally connected, and would range them after one another, as just consequences.

Betwixt those two extremes we might suppose a medium, in which neither too great a share of imagination; and memory, should prejudice the solidity of the understanding, nor too small a portion deprive it of its amusements. Perhaps this medium is so very difficult to find, that men of the greatest genius have only come near it. According as different minds deviate from it, and tend towards the opposite extremes, they have qualities more or less incompatible, because they must participate more or less of the extremes which absolutely exclude each other. Thus it is that such as border on the extreme in which the imagination and memory predominate, in proportion lose those qualities by which the understanding is enabled to reason justly, consequentially, and methodically; and those who approach the other extreme, are in the same proportion deprived of those qualities which contribute to pleasure and amusement. The former write with more ease, the others with more connexion and strength.

And here we see not only how the facility of connecting our ideas produces the imagination, contemplation, and memory; but likewise how it is the real principle of the perfection or defect of these operations.

C H A P. IV.

That the use of signs is the real cause of the progress of the imagination, contemplation and memory.

IN order to develop the real cause of the progress of the imagination, contemplation and memory, we must inquire what assistance these operations derive from the use of signs.

§ 35. I distinguish three sorts of signs: 1°. Accidental signs, or the objects which particular circumstances have connected with some of our ideas, so as to render the one proper to revive the other. 2°. Natural signs, or the cries which nature has established to express the passions of joy, of fear, or of grief, &c. 3°. Instituted signs, or those which we have chosen ourselves, and bear only an arbitrary relation to our ideas.

§ 36. These signs are not necessary for the habit of the operations which precede reminiscence: for perception and consciousness cannot but take place so long as we are awake; and attention being no more than the consciousness which informs us more particularly of the present perception; to occasion it no more is wanting, than that one object act upon the senses with greater force than another. So far the signs would be proper only for furnishing a more frequent opportunity of employing the attention.

§ 37. But suppose a man who has no use of any arbitrary sign: with the sole aid of accidental signs, his imagination and reminiscence may already have acquired

some kind of habit; that is, at the sight of an object the perception, with which that object is connected, may be revived, and he may know it to be that which he had before. Yet we must observe that this will not happen, except some extrinsic cause sets this object before his eyes. When it is absent, he has no possible means of reviving it of himself, since he has no command over those things with which the object is connected; therefore it does not depend upon him to retrieve the idea to which it is united. Hence his imagination is not as yet in his power.

§ 38. With regard to natural cries, this man shall form them, as soon as he feels the passions to which they belong. However they will not be signs in respect to him the first time; because instead of reviving his perceptions, they will as yet be no more than consequences of those perceptions.

But when he has often felt the same passion, and as often broke out into that cry which accompanies it, both will be so strongly connected in his imagination, that he cannot hear the one without experiencing in some measure the other. Then it is that this cry becomes a sign: but his imagination will not acquire any habit, till he has heard it by chance; consequently this habit will be no more in his power than in the preceding case.

Nor will it signify to object that in process of time he might use this sort of cries, to revive at pleasure the passions they express. I answer, that then they would cease to be natural signs, whose character is to express of themselves, and independently of the choice made of them, the impression we feel, by producing something of the like nature in others.

They

They would be sounds of his own-making, just as we make those of fear, joy, &c. consequently he would have employed some instituted signs, which is contrary to the supposition upon which I am now arguing.

§ 39. Memory, as we have seen, consists only in the power of reviving the signs of our ideas, or the circumstances that attended them; a power which never takes place, except when by the analogy of the signs we have chosen, and by the order we have settled between our ideas, the objects which we want to revive are connected with some of our present wants. In short we cannot recall a thing to mind, unless it be in some manner connected with something else which is in our power. Now a man who has only accidental and natural signs, has none at all at his command. His wants can therefore occasion nothing more than the repeated act of his imagination: consequently he must have no memory.

§ 40. Hence we may conclude that brutes have no memory; and that they have only an imagination which they cannot command as they please. They represent to themselves an absent object, only because the image of it in their brain is closely connected with the object present. It is not their memory that directs them to a place, where the day before they met with nourishment: but it is because the sensation of hunger is so strongly connected with the ideas of that place and of the road leading to it, that these ideas are revived, as soon as they feel the sensation. It is not their memory that makes them fly from other animals that devour them. But it is because some of their species having been destroyed

before their eyes, the cries which at that time reached their ears, revived in their minds the perceptions of pain, of which they are the natural signs; and in consequence thereof they fled. When these animals appear again, they revive in them the same perceptions; because as these were produced the first time on that occasion, the connexion is established. Therefore they betake themselves again to flight.

With respect to those that have never seen any other animals perish in this manner; we may with just reason suppose that their dam, or some other fellow brute, did induce them at first to flee with them, having communicated by cries the terror which possesses them, and which is constantly revived at the sight of their enemy. If all these suppositions should be rejected, I own I do not see what can make them run away.

Perhaps I shall be asked, who it is that taught them to distinguish those cries which are the natural signs of pain; I answer, experience. There is none of them but has had an early experience of pain, and of course has had occasion to join the cry of it to the sensation. We must not imagine that they are unable to run away, unless they have an exact idea of the danger that threatens them: it is sufficient that the cries which creatures of their own species send forth, do but revive in them the perception of some sort of pain.

§ 41. Hence it appears, that though brutes, for want of memory, have not the same power as we, of reviving at pleasure the perceptions connected in their brain, yet this defect is sufficiently supplied by the imagination. For by renewing the very perceptions

Sect. 2. HUMAN KNOWLEDGE. 55

tions of absent objects, it enables them to conduct themselves as if those objects were present, and thereby to provide more readily and surely for their preservation, than even the human species are capable of doing on some occasions with the assistance of reason. We may often observe within ourselves something of the like nature, when reflexion would come too late to rescue us from danger. For example, at the sight of a great weight ready to fall upon us and crush us to pieces, the imagination brings to our minds the idea of death, or of something like it, and this idea prompts us to avoid the danger. Certain death would attend us, if in those moments we had only the assistance of memory and reflexion.

§ 42. It frequently happens that the imagination produces even such effects within us, as might seem to proceed from present reflexion. Though we may be greatly taken up with a particular idea, yet the objects which surround us, continue to solicit our senses; the perceptions they occasion, revive others with which they are connected; and these determine certain movements in our bodies. When all these things do not affect us so strongly as the idea with which we are principally occupied, they are unable to divert us from it; and thence it happens that without reflecting on what we are doing, we act in the same manner as if our conduct was directed by reason. There is no body but must have experienced what I have been saying. A man walks through the streets, and avoids every hinderance or crowd with the same precaution, as if he thought of nothing else. And yet it is certain that his thoughts were quite otherways employed. Farther; it fre-

quently happens that though the mind is not intent upon the thing we are asked, yet we answer pertinently. This is because the words which express the question, are connected with those which frame the answer, and the latter determine the movements proper for their articulation. The connexion of ideas is the principle of all these appearances.

We therefore know by experience that the imagination, even when we have it not in our power to regulate the act and habit of it, is sufficient to explain several actions which appear to be directed by reason, but are really not so. Hence we have foundation to believe that there is no other operation in brutes. For let the facts related of them be what they will, we shall find others as extraordinary in men, which may be explained by the principle of the connexion of ideas.

§ 43. By following the explications here given, we may frame a clear idea of what is commonly called *instinct*. It is the imagination, which at the presence of the object, revives the perceptions immediately connected with it, and thereby directs every species of animals without the assistance of reflexion.

For want of knowing the analysis above given, and especially what has been said concerning the connexion of ideas, philosophers have been greatly puzzled to explain the instinct of brutes. The same has happened to them, as must happen to every one that attempts to reason without tracing matters to their source: that is, being unable to hit upon a proper medium, they have lost themselves in two extremes. Some have placed instinct upon a level with, or even
above

above reason ; others have rejected all instinct, and considered brutes as mere automata or machines. These two opinions are equally ridiculous, to say nothing worse. The resemblance between brutes and us, proves they have a soul ; and the difference between us, evinces that it is inferior to ours. The analysis I have been making, conveys a sensible proof of the thing, because the operations of the soul of brutes are limited to perception, consciousness, attention, reminiscence, and to an imagination not subject to their command ; whereas ours has other operations whose origin I am going to explain.

§ 44. What we have been saying in regard to imagination and memory, must be applied to contemplation, according as it is referred to either. If it be made to consist in retaining the perceptions ; before the use of instituted signs it has only a habit which does not depend on us : but it has none at all, if it be made to consist in preserving the signs themselves.

§ 45. So long as we have acquired no habit of the imagination, contemplation, and memory ; or the habit of the two first, is not subordinate to our command ; we cannot dispose of our attention as we please. For how indeed should we dispose of it, when the soul as yet has no operation in her power ? she passes therefore from one object to another, only as she is dragged by the impression of the different objects.

§ 46. But as soon as a man comes to connect ideas with signs of his own choosing, we find his memory is formed. When this is done, he begins of himself to dispose of his imagination, and to
give

give it a new habit. For by means of the signs which he is able to recall at pleasure, he revives, or at least is often capable of reviving the ideas which are connected with them. Afterwards he obtains a greater command over his imagination, in proportion as he invents more signs, because he thereby procures more means of employing it.

And here it is we begin to perceive the superiority of the human soul over that of brutes. For on the one hand it is certain that it does not depend on them, to affix their ideas to arbitrary signs; and on the other it seems indubitable that this incapacity does not proceed intirely from the organization. Is not their body as proper for the language of action as ours? have not many of them every thing necessary for the articulation of sounds? why therefore, if they are capable of the same operations as we, do not they give some proofs of it?

These particulars shew in what manner the use of different signs contributes to the progress of the imagination, contemplation, and memory. But all this shall be still further explained in the following chapter.

CHAP. V.

Of Reflection.

§ 47. **A**S soon as the memory is formed, and the habit of the imagination is in our power, the signs recollected by the former, and the ideas revived by the latter, begin to free the soul from

from her dependence in regard to the objects by which she was surrounded. As she has it now in her power to recall the things which she has seen, she may direct all her attention towards them, and transfer it from the present object. At the sight of a picture, for instance, we recollect the knowledge we have of nature, and of the rules by which we learn to imitate; then we transfer our attention successively from this picture to that knowledge, and from that knowledge to this picture, or successively to its different parts. But beyond all doubt our disposing thus of our attention, is intirely owing to the assistance afforded us by the vivacity of the imagination, which is the effect of great memory. Otherwise we should not regulate it ourselves, but it would be intirely subject to the action of the objects.

§ 48. This manner of successively applying our attention of ourselves to different objects, or to the different parts of one object only, is what we call to *reflect*. Thus we sensibly perceive in what manner reflexion arises from imagination and memory. But the degrees by which this is effected, ought not to escape our observation.

§ 49. The very dawn of memory is sufficient to make us masters of the habit of our imagination. A single arbitrary sign is enough to enable a person to revive an idea by himself; this is certainly the first and smallest degree of memory, and of the command which we may acquire over the imagination. The power it gives us of disposing of our attention, is the weakest that can be. But such as it is, it begins to render us sensible of the advantage of
signs;

signs; and, consequently, it is proper for making us embrace at least some of those opportunities, on which it may be either useful or necessary to invent new signs. By this means it will strengthen the habit of the memory and imagination: then the habit of reflexion may likewise be improved, and re-acting upon the imagination and the memory by which it was produced, it will improve them in its turn. Thus by the mutual assistance which these operations shall lend each other, they will reciprocally contribute to each other's progress.

If upon reflecting on the weak beginnings of these operations, we do not sensibly perceive their mutual influence, we need only to apply what has been said, to these operations considered in that point of perfection in which we possess them. What a deal of reflexion, for example, was necessary for the forming of languages! and how great is the assistance which these languages afford to reflexion! But this is a subject for which I design several chapters.

It seems that we could never make use of instituted signs, unless we were previously capable of sufficient reflexion to chuse those signs, and to affix ideas to them: what is the reason then, some perhaps will object, that the habit of reflexion is to be acquired only by the use of these signs?

My answer is, that I shall solve this difficulty, when I come to treat of the history of language. In the mean time it will be sufficient here to observe that it has not escaped me.

§. 50. From what has been said it is beyond all doubt that we have no better way of increasing the vivacity

vivacity of the imagination, as well as the extent of the memory,* and of facilitating the habit of reflexion, than by amusing ourselves with such objects, as afford most exercise to the attention, and consequently connect a greater number of signs and ideas. On this the whole depends. This shews, to observe it only by the way, that the custom of applying children, during the first years of their studies, to such things only, as suit neither their understanding, nor their inclinations, is a very improper way of discovering their talents. This custom forms no connexion of ideas, or forms them so light and superficial that they are of no duration.

§ 51. It is by reflexion we begin to have a glimpse of the capacity of the mind. So long as we do not direct our attention ourselves, we have seen that the soul is subject to whatever environs it, and possesses nothing but by an extrinsic virtue. But if we are masters of our attention, and conduct it according to our wishes, the mind then disposes of itself, draws ideas which it owes only to itself, and is enriched from its own fund.

The effect of this operation is so much the greater, as thereby we dispose of our perceptions, in the same manner almost as if we had a power of producing and annihilating them. Suppose I chuse one from among those which I actually experience, my consciousness of it will be immediately so lively, and that of the rest so weak, that it will appear to be the only one of which I am at all conscious. Suppose the next moment I have a mind to lay it aside, in order to amuse myself intirely with one of those which made the slightest impression on me,

it will seem to be annihilated, whilst another shall emerge from nothing. To speak less figuratively, my consciousness of the former will become so faint, and that of the latter so strong, that it shall appear to me as if I had felt them in succession only. This experiment may be made by considering a very compound subject. There is no doubt but we have at the same time a consciousness of all the perceptions, which the different parts of that subject, disposed to solicit our senses, produce within us. And yet one would imagine that our reflexion suspends at pleasure the impressions made on the mind, in order to preserve only one of them.

§ 52. Geometry informs us that the surest method of facilitating our reflection, is to set before the senses the very objects of the ideas about which we intend to employ ourselves, because our consciousness of them is then more lively. But we cannot have recourse to this artifice in all sciences. One way that may be generally used with success, is to take care that our meditations be clear, precise, and methodical. Clear, because the clearer the signs are, the more we are conscious of the ideas which they signify, and consequently, the better we preserve them: precise, to the end that our attention being less divided, may fix itself with less difficulty: methodical, that a fundamental idea, being better known and more familiar to us, may prepare our attention for that which is to follow.

§ 53. It never happens that the same man is capable of acquiring an equal habit of memory, imagination, and reflection on all sorts of subjects. This is because these operations depend on attention as on
2 their

their cause; and this cannot employ itself about an object but in proportion to the relation it bears to our constitution and to whatever concerns us. From hence we learn why those who attempt to become universal in point of literature, run the risk of miscarrying in many branches. There are but two sorts of talents: one acquired merely by the violence used to the organs; the other the consequence of a happy disposition, and great flexibility in the organs. As the latter more properly belongs to nature, it is more lively, more active, and produces far superior effects. The former on the contrary is the effect of labour and struggle, and never rises above the degree of mediocrity.

§ 54. I have investigated the causes of imagination, memory, and reflection in the operations which precede them, because my design in this section is to explain in what manner the operations rise one from the other. It would be the province of natural philosophy to remount to other causes, were there any possibility of knowing them*.

* *This whole work is built on the five chapters which the reader has now gone through; he must therefore understand them thoroughly before he proceeds any farther.*

CHAP. VI.

Of the operations which consist in distinguishing, abstracting, comparing, compounding, and decomposing our ideas.

WE have at length developed whatever was most abstruse and difficult to perceive in the progress of the operations of the mind. Those of which we have still to speak, are such sensible effects of reflection, that their origin in some measure explains itself.

§ 55. From reflection or from the power of disposing of our attention ourselves, arises the power of considering our ideas separately. So that the same consciousness which informs us more particularly of the presence of certain ideas (which is the characteristic of attention) informs us at the same time that they are distinct. Hence it is* that while the soul was not mistress of her attention, she was incapable of distinguishing by herself the different impressions which she received from objects. We experience this so often as we want to apply ourselves to subjects for which we are not qualified. For then we confound the several objects to such a degree, that sometimes we find it difficult to distinguish even those which differ the most. This is because for want of reflecting, or giving our attention to all the different perceptions which they occasion; those that distinguish them escape our notice. Hereby we may judge that if we were intirely destitute of the use of reflection, we should not distinguish different

different objects, but so far as each would make a very strong impression on us. All those which would act but weakly, we should reckon as nothing.

§ 56. It is easy to distinguish two ideas absolutely simple; but in proportion as they become more complex, the difficulties increase. Then as our notions resemble each other in more respects, there is reason to fear lest we take many of them for one only, or at least that we do not distinguish them as much as we might. This frequently happens in metaphysics and morals. The subject which we have actually in hand, is a very sensible proof of the difficulties that are to be surmounted. On these occasions we cannot be too cautious in pointing out even the minutest differences. This is what constitutes a clear sound judgment; and contributes most to give to our ideas that order and precision so necessary to arrive at any real knowledge. But indeed this truth is so little known, that we run the risk of rendering ourselves ridiculous, when we engage in any thing of a subtle analysis.

§ 57. By distinguishing our ideas, we sometimes consider those qualities which are most essential to the subject, as intirely separate from it. This is what we call more particularly *to abstract*. The ideas from thence resulting, are denominated *general*, by reason they represent such qualities as agree with several different things. For instance, if without attending to what distinguishes men from brutes, I reflect only on what is common to both, I make an abstraction which gives me the general idea of *animal*.

This operation is absolutely necessary to limited understandings, which are incapable of considering more than a few ideas at once, and for this reason are obliged to reduce several to the same class. But we must take care not to consider things which are distinguished only by our manner of conception, not to consider them, I say, as so many distinct beings. This is an error into which a great many philosophers have fallen. I propose speaking more particularly of it in the fifth section of this first part.

§ 58. Reflexion, from whence we derive a power of distinguishing our ideas, gives us likewise that of comparing them, in order to know their relations. This is done by transferring our attention alternately from the one to the other, or by fixing it at the same time on many. When such ideas, as are not much compounded, make an impression sufficient to draw our attention, without any effort on our part, the comparison is easy: but the difficulties augment, in proportion as the ideas become more complex, and make a slighter impression. Comparisons, for example, are generally more easy in geometry, than in metaphysics.

By the help of this operation we compare those ideas which are least familiar to such as are more so; and the relations we find there, establish such connexions between them, as are extremely proper for augmenting and strengthening the memory, the imagination, and reflexion.

§ 59. Sometimes after having distinguished several ideas, we consider them as forming only a single notion; at other times we prescind from a notion some of the ideas of which it is composed. This
is

is what we call *to compound* and *decompound* our ideas. By means of these operations we are capable of comparing them under all sorts of relations, and of daily making new combinations of them.

§ 60. In order rightly to conduct the former, we are to observe which are the most simple of our ideas, and how, as well as in what order, they are united to those which come after them. By this means we shall be capable of equally regulating the latter; for the business will be only to undo what has been done. This shews how both proceed from reflection.

C H A P. VII.

A digression on the origin of principles, and of the operation which consists in analyzing.

§ 61. **T**HE faculty of abstracting and decomposing soon introduced the custom of general propositions. It is impossible to be long without perceiving, that as these propositions are the result of particular knowledge, they are proper for easing the memory, and rendering our discourse precise. But they soon degenerated into abuse, and gave birth to a very imperfect manner of reasoning; the cause whereof is this.

§ 62. The first discoveries in the sciences were so simple and easy, as to have been made without the assistance of any method. People could not even imagine rules, till after they had made some progress, which

enabling them to observe in what manner they had attained to some truths, gave them to understand how they should acquire the knowledge of others. Thus the first discoverers could not point out the way for others to follow them, since they did not even know what road they had taken themselves. They had no other method left to prove the certainty of those discoveries, than to shew that they agreed with the general propositions which no body called in doubt. This made many believe that these propositions were the real source of human knowledge. In consequence hereof they gave them the name of *principle*; and it was a general prejudice, which even still obtains, that we ought not to reason but from principles *. Those who made new discoveries, thought to give a higher idea of their penetration, by making a mystery of the method they had followed. They were satisfied with explaining those discoveries by means of principles generally adopted; the prejudice being once received, gained further credit, and gave birth to innumerable systems.

§ 63. The inutility and abuse of principles appears especially in the synthetic method; in which truth seems to be forbid to make her appearance, unless she has been preceded by a great number of axioms, definitions, and other propositions of pretended fertility. The evidence of mathematical demonstrati-

* I do not understand here by *principles*, those observations which are confirmed by experience. I take this word in the usual sense of philosophers; who give the name of *principles* to general and abstract propositions, on which they build their systems.

ons, and the approbation which the torrent of the learned give to this manner of reasoning, would make one believe that I am advancing here a ridiculous paradox. But it is not difficult to prove, that the mathematics are far from owing their certainty to the synthetic method. And indeed, had this science been susceptible of as many errors, obscurities, and ambiguities as metaphysics, the synthetic method would have been the best thing in the world for continuing them, and even for increasing their number. That the ideas of mathematicians are exact, is because they are the work of algebra and analysis. The method which I condemn, as improper for settling a vague principle, or an indeterminate notion, leaves all the defects of an argument uncorrected, or conceals them under the appearance of a vast deal of order, which is entirely as superfluous as it is dry and disgusting. I refer the reader for the truth of what I have been saying, to those works of metaphysics, morality, and theology, whose authors have attempted to make use of this method †.

† Has De Cartes, for example, thrown any farther light on his metaphysical meditations, by attempting to demonstrate them according to this method? Is it possible to find worse demonstrations than those of Spinoza? I might likewise mention Mallebranche, who has sometimes made use of the synthetic method; Arnaud, who has used it in a very bad treatise on ideas, and in other places; and the author of the action of God upon his creatures, as well as several others. One would think, that those writers, in order to demonstrate geometrically, imagined it was sufficient to range the different parts of an argument in a certain order, under the title of *axioms, definitions, postulatus, &c.*

§ 64. It is sufficient to consider that a general proposition is no more than the result of the knowledge of particulars, in order to convince us, that it can only make us descend to the knowledge which first raised us to it, or to that which might have equally shewn us the same way. Consequently, so far from being the principle of the knowledge of particulars, it supposes these to be known, or at least that they may be known to us, by other means. And indeed to set forth the truth with all that show of principles which the synthetic method requires, it is plain that we must have some previous knowledge of it. This method, which at the most is proper only for demonstrating, in a very abstract manner, such things as might be proved in the plainest and simplest method, affords so much the less light to the understanding, as it conceals the road which leads to discoveries. There is even room to apprehend, lest it should impose on us, by giving an air of probability to paradoxes the most false; because by loose, and oftentimes far fetched propositions, it is easy to prove whatever we have a mind, without its being easy to perceive where the argument is defective. Of this there are frequent examples to be met with in metaphysics. In fine this is not a summary way, as is commonly imagined; for there are no authors that fall into more frequent repetitions, and into more useless details, than those who make use of it.

§ 65. For example, one would think that it is sufficient to reflect on the manner in which we form the idea of a whole, and of a part, to prove evidently that the whole is greater than its part. And yet several

Sect. 2. HUMAN KNOWLEDGE. 71

veral modern geometricians, after censuring Euclid for having neglected to demonstrate this sort of propositions, undertake to supply the defect. And indeed, the synthetic method is too nice to leave any thing unproved; it takes only one proposition for granted, which it considers as the principle of the rest, and even this must be identical. Let us see then how a geometrician goes about to prove that the whole is greater than its part.

First of all he lays down as a definition, *that a whole is greater, whose part is equal to another whole*; and as an axiom, *that the same is equal to itself*; this is the only proposition he does not undertake to demonstrate. Then he reasons thus:

“A whole, whose part is equal to another whole,
“is greater than this other whole (by the definition);
“but each part of a whole is equal to itself (by the
“axiom); therefore a whole is greater than its
“part*.”

I confess that this syllogism has need of a commentator, to render it level to my capacity. Be that as it may, it seems to me that the definition is neither more clear nor more evident than the theorem, and consequently it cannot be brought to prove it. And yet this demonstration is given as an instance of a per-

* This demonstration is taken from the mathematical elements of a celebrated writer. But I will give it here in the author's own words, § 18. Defi. *Majus est, cujus pars alteri toti æqualis est; minus verò, quod parti alterius æquale.* § 73. Axio. *Idem est æquale sibi met ipsi.* Theor. *Totum est majus sua parte.* Demonstr. *Cujus pars alteri toti æqualis est, id ipsum altero majus.* (§ 18.) *Sed qualibet pars totius parti totius, hoc est, sibi ipsi æqualis est.* (§ 73.) *Ergo totum qualibet sua parte majus est.*

fect analysis: for they say, "*it is included* in a syllogism, one of whose premises is a definition; and "the other an identical proposition; which is the "mark of a perfect analysis."

§ 67. If this be what the geometricians mean by the *analytic* method, I see nothing more useless. They have certainly a better; and the progress they have made clearly shews it. Perhaps their analysis appears so different from that which might be employed in the other sciences, only because the signs are particular to geometry. Be that as it may, to analyze, in my opinion, is nothing more than an operation arising from the concurrence of those operations which went before. It consists only in compounding and decomposing our ideas, in order to compare them differently, and to discover the relations they have among themselves, together with the new ideas which they are capable of producing. This analysis is the true secret of discoveries, because it makes us ascend to the original of things. It has this advantage, that it presents us only a few ideas at a time, and these always in the most simple gradation. It is an enemy to vague principles, and to every thing contrary to exactness and precision. It does not investigate the truth by the assistance of general propositions, but by a kind of calculation; that is, by compounding and decomposing the ideas, in order to compare them in the most favourable manner to the discoveries we have seen. Neither does it investigate by definitions, which, generally speaking, only serve to multiply disputes, but by explaining the origin of each idea. Hence this appears to be the only method that can render

render our reasonings demonstrative; and consequently it is the only one we ought to embrace in the pursuit of truth. But it supposes in those who are willing to make use of it, a great knowledge of the progress of the operations of the mind.

§ 67. We must therefore conclude, that principles are only particular inferences which may serve to point out the most remarkable places through which we have passed; and that like the clue of a labyrinth, they are of no use when we want to proceed forward, but only facilitate the means of returning the same way we came. Though they may be proper for easing the memory, and shortening disputes, by concisely pointing out those truths which both sides are agreed on; yet they generally become so vague and indeterminate, that if they are not used with caution, they multiply disputes, which then degenerate into a mere caviling about words. Hence the only means of acquiring knowledge, is to ascend to the origin of our ideas, to trace their formation, and to compare them under all their possible relations, which is what I call to *analyze*.

§ 68. It is commonly said that we ought to have fixed principles. This I own is right; but I am very much mistaken, or most of those who inculcate this maxim, do not well know what they would have. It seems even to me that we consider as principles only such as we have adopted ourselves, and of course we charge others with having none, when they refuse to admit of ours. If by principles we mean general propositions, which may occasionally be applied to particular cases, who is without them? But on the other hand what merit

is there in having them? They are indeterminate maxims, which we never learn justly to apply. To say of a person that he has such principles as those, is giving to understand that he is incapable of having clear ideas of what he thinks. If therefore we must have principles, this does not imply that we ought to begin with them in order to descend afterwards to less general notices; but that we ought to have made a diligent study of particular truths, and to have ascended by different abstractions up to universal propositions. This kind of principles are naturally determined by the particular ideas that conducted us to them; their full extent is perceived, and we may be sure of using them with the utmost exactness. To say that a man has such principles, is giving to understand that he has a thorough knowledge of the arts and sciences, which he makes his study, and that in every thing he proceeds with the utmost clearness and precision.

C H A P. VIII.

Of affirming: denying: judging: reasoning: conceiving: understanding.

§ 69. **W**HEN we compare our ideas, the consciousness we have of them is the cause of our knowing that they are the same in the several respects in which we consider them, which we manifest by connecting those ideas by the word *is*; and this is called *affirming*: or else it is the cause of our know-
ing

ing that they are not the same, which we manifest by separating them by these words, *is not*; and this is called *denying*. This twofold operation is what we call *judging*; and is plainly a consequence of the others.

§ 70. From the operation of judging arises that of reasoning. Reasoning is only a concatenation of judgments depending one upon the other. On these last operations there is less occasion to expatiate. All that the logicians say concerning them in numerous volumes, I look upon as of no manner of use. I shall therefore content myself with accounting for one experiment.

§ 71. It has been often asked, how is it we are able in conversation to unfold, and often without hesitating, the most extensive reasonings? are all the parts of it present at the same instant? and if they are not (which is the most likely, since the mind is too limited to embrace a multitude of ideas at once) how happens it that the mind conducts itself so regularly? This is easily explained by what has been already mentioned.

As soon as a person proposes to form an argument, the attention he gives to the proposition he wants to prove, makes him successively perceive the principal propositions, which are the result of the different parts of the argument he is going to make. If they are closely connected, he gives them so cursory a view, that he is apt to imagine he sees them all at the same time. When he has possessed himself of these propositions, he considers which ought to be explained first. By this means the ideas proper for setting it in its full light are revived in him, according to the order of connexion between

tween them. From thence he proceeds to the second, in order to repeat the same operation, and so on till he comes to the conclusion of his argument. His mind therefore does not embrace all the parts at the same time; but from the connexion between them he views them with a rapidity sufficient to outrun his speech, just as in reading aloud the eye catches the words so as to outrun the tongue.

Some perhaps will ask, how it is possible to perceive the result of an argument, without having fully viewed all its different parts? I answer, that this happens only when we are speaking of matters familiar to us, or which are almost so by the relation they bear to those with which we are better acquainted. This is the only case in which we may observe the particularity I mentioned. In every other case, people speak with hesitation, which is owing to this, that as the ideas are too weakly connected, it takes up some time before they are revived: or else they speak incoherently, which is the effect of ignorance.

§ 72. When, by having acquired the habit of the preceding operations, or at least of some of them, we have framed exact ideas, and we know their relations, our consciousness of them is called *conceiving*. Consequently an essential condition for conceiving well, is always to represent things to ourselves under their proper ideas.

§ 73. These analyses help to give us a more exact idea of the understanding than is generally formed. This is looked upon as a different faculty from our knowledge, and as the place where it all comes to unite. And yet to speak with perspicuity,

Sect. 2. HUMAN KNOWLEDGE.

spicuity, I think we should say that the understanding is no more than the collection or combination of the operations of the mind. To perceive or to have a consciousness, to give one's attention, to discover, to imagine, to remember, to reflect, to distinguish one's ideas; to compare, to compound, to decompound, to analyze; to affirm, to deny, to judge, to reason, to conceive: all this is the understanding.

§ 74. I have confined myself to these analyses, in order to shew the dependance of the operations of the mind, and how they are all originated from the first. We begin with having perceptions of which we are conscious. If we afterwards form a more lively consciousness of some perceptions; this becomes attention. From that time the ideas are connected, and in consequence thereof we know again the perceptions we have had, and we know ourselves to be the same being that had them; this is called reminiscence. If the mind revives, or preserves its perceptions, or only recollects the signs of them; this is imagination, contemplation, and memory: if it disposes of its attention itself, this is reflexion. In fine, from this last all the rest arise. It is properly reflexion that distinguishes, compares, compounds, decompounds, and analyzes; since these are only different ways of conducting the attention. From thence by a natural consequence, judgment, reasoning, and conception are formed; and from thence results the understanding. But I thought proper to consider the different manners in which we acquire the habit of reflexion, as so many distinct operations; because there

is a *magis* or *minus* in the effects arising from it. For instance, it does something more in comparing ideas, than when it only distinguishes them; in compounding and decomposing them, than when it is content with only comparing them, just as they are; and so of the rest. No doubt but we may multiply more or less the operations of the mind, according to the manner in which we are willing to form a conception of things. We might even reduce them to one only, which is consciousness. But there is a medium between dividing too much and not dividing sufficiently. In order therefore to set this matter in its full light, we must still proceed to new analyses.

CH A P. IX.

Of the defects and advantages of the imagination.

§ 75. **F**ROM the power we have of reviving our perceptions in the absence of objects, is derived that of reuniting and connecting the most distant ideas. Every thing is capable of assuming a new form in our imagination. By the liberty with which it removes the qualities of one subject to another, it unites in one only the perfections which nature would judge sufficient for the embellishment of many. Nothing at first sight seems more contrary to truth, than this manner in which the imagination disposes of our ideas. And indeed if we do not render ourselves masters of this operation, it will infallibly lead us astray; whereas if we learn how to subject it

it to rule, it will prove one of the principal sources of all our knowledge *.

§ 76. The connexions of ideas are formed in the imagination two different ways: sometimes spontaneously; and at other times they are the effect of an external impression. The former are generally less vivid, so that they may easily be broke: and it is agreed that they are instituted or artificial. The latter are often so well cemented, that it is impossible for us to destroy them; hence we are inclined to think them natural. They have both their advantages and inconveniences; but the latter are so much the more useful or pernicious, as they actuate the mind with greater force.

§ 77. Language is the most sensible example of the connexions spontaneously formed: for without any other aid it points out the advantages arising from this operation; while the precautions necessary for speaking with justness and propriety, shew the difficulty of reducing it to a proper regulation. But as I purpose shortly to treat of the necessity, use, origin, and progress of language, I shall not take

* Hitherto I have taken the imagination for that operation only which revives the perceptions in the absence of objects: but now that I consider the effects of this operation, I find no inconveniency in following the common acceptation; nay, I am obliged to do it. Hence it is that in the present chapter I take the imagination for an operation, which by reviving our ideas, forms new combinations of them at will. Thus the word *imagination* shall henceforward have two different significations with me: but this shall not occasion any equivocation or ambiguity, because the circumstances in which I use it, will determine each time my particular meaning.

up the reader's time here in explaining the advantages and inconveniences of this part of the imagination. I proceed therefore to those connexions of ideas which are the effect of some external impression.

§ 78. I said that these connexions are useful and necessary. For instance, it was necessary that the sight of a precipice, which we are in danger of falling into, should revive in our minds the idea of death. Our attention cannot therefore upon the first occasion help forming this connexion; which it must render so much the stronger, as it is determined by the most pressing motive, namely the preservation of our being.

Mallebranche looked upon this connexion as natural or innate. "The idea, says he, of a great
 " precipice which we see under us, and into which
 " we are in danger of falling, or the idea of a
 " heavy body ready to tumble upon us and crush us
 " to pieces, is naturally connected with that which
 " represents death to our minds, and with an emotion of the spirits, which prompts us to fly from
 " it. This connexion never changes, because it is
 " necessary it should be always the same; and it
 " consists in a disposition of the fibres of the brain,
 " which we have from our infancy *."

It is evident that if experience had not informed us of our mortality, so far from having an idea of death, we should be surprized at the sight of the first dead body. This idea is therefore acquired, and Mallebranche is mistaken in confounding that

* Inquiry after truth, book 2. c. 3.

which is natural, or imprinted on our minds from our infancy, with what is common to all mankind. This is a general error. They do not observe that the same senses, the same operations, and the same circumstances must every where produce the same effects *. They are absolutely determined to have recourse to something innate, or natural, which precedes the action of the senses, the habit of the operations of the mind, and the common circumstances of life.

§ 79. Though the connexions of ideas formed within by external impressions, are sometimes useful, yet they may be also frequently pernicious. Suppose we are accustomed by education to connect the idea of shame or infamy with that of surviving an affront; the idea of magnanimity or courage with that of destroying ourselves, or of exposing our lives by endeavouring to deprive him of life who has affronted us, we shall have two prejudices: one which was the point of honour among the Romans, the other that of part of modern Europe. These connexions are encouraged and increased more or less by age, by strength of constitution, by the passions to which we become subject, and by the state of life which we severally embrace.

* They suppose a person to be born in full maturity on the side of a precipice, and they ask whether it is probable he would avoid falling into it. For my part, I think he would; not indeed from the fear of death, for no man can be afraid of what he does not know; but because it seems natural to me, that he should direct his steps towards that side, where his feet can tread upon something.

This sort of prejudices being the first impressions we have experienced, constantly appear to us as incontestable principles. In the instance I have given, the error is palpable, and the cause of it well known. But there is scarce a person perhaps, who has not sometimes happened to fall into absurd reasonings, the ridiculousness of which he has at length discovered, without being able to comprehend how he could have thus imposed upon himself even a single instant. These are frequently no more than the effect of a singular connexion of our ideas; a sufficient cause indeed to humble our vanity, and which for this very reason we have so much difficulty to perceive. If it operates in so secret a manner, well may we judge of the mistaken notions into which it leads the generality of mankind.

§ 86. In general the impressions we feel under different circumstances, induce us to connect ideas, which we have it no longer in our power to separate. We cannot, for instance, frequent company, without insensibly connecting the ideas of a certain turn of mind and character with a particular figure and make. This is the reason that persons of a particular physiognomy, strike us more than others: for physiognomy is only an assemblage of features with which we have connected such ideas, as are never revived without being accompanied with approbation or dislike. We must not therefore be surprized if we are inclined to judge of other people from their physiognomy, and if sometimes even at first sight we conceive a dislike to them or are prejudiced in their favour.

In consequence of these connexions we are frequently prepossessed even to excess in favour of particular persons, and conceive intirely wrong notions in regard to others. This is because whatever strikes us either in our friends or enemies, is naturally connected with the agreeable or disagreeable sensations which they make us feel; and of course, the defects of the former are always overlooked because of the other amiable qualities of which we see them possessed, while the most perfect endowments of the latter seem to partake of their vices. Hence it is that these connexions have a prodigious influence upon our conduct: they feed our love or our hatred, they encourage our esteem or our contempt, they excite our gratitude or resentment, and produce those sympathies, those antipathies; and all those whimsical inclinations for which we often find such difficulty to account. I think I have somewhere read that Descartes always preserved a liking for people that were squint-eyed, because the first woman he fell in love with, happened to have this kind of blemish.

§ 81. Mr. Locke has shewn the great danger arising from the connexions of ideas, when he observed that they are productive of madness. "A man, says he, * who is very sober and of a right understanding in all other things, may in one particular be as frantick as any in Bedlam; if either by any sudden very strong impression, or long fixing his fancy upon one sort of thoughts, incoherent ideas have been cemented together so powerfully, as to remain united."

* Essay on Human Understanding, book 2. c. 11. § 13. He repeats almost the same in c. 13. § 4. of the same book.

§ 82. In order to comprehend the justness of this reflexion, it is sufficient to observe that in a physical consideration, imagination and madness can differ from each other only by more or less. All depends on the vivacity and quantity with which the spirits are conveyed to the brain. Hence in dreams the perceptions are so strongly renewed, that upon our awaking, with difficulty we discover our error. This is certainly a moment of frenzy: to continue frantic, it would be sufficient to suppose that the fibres of the brain had been shaken with too great violence to be able to recover themselves. The same effect may be produced in a slower manner.

§ 83. There is hardly a person, I think, that in his idle hours, has not had some revery in which he has imagined himself the hero of the romance. These fictions, which are called *castles in the air*, generally produce only a slight impression on the brain, because we seldom give way to them; so that they are soon dispersed by more real objects, with which we are obliged to occupy our thoughts. But suppose some sudden fit of melancholy seizes our minds, so as to make us avoid the company of our best friends, and dislike every thing that pleased us before; we shall then find in the transport of our grief, that our favourite romance will be the only idea that can divert us from it. The animal spirits by degrees will dig such a strong foundation to this castle, that nothing will be able to demolish it: we shall fall asleep in the building of it; we shall dream we reside in it; and in fine when the impression of the spirits shall insensibly arrive to that pitch as if we really were what we have fancied

Sect. 2. HUMAN KNOWLEDGE. 85

fancied ourselves to be, upon returning to ourselves we shall take our chimeras for a reality. Perhaps the madness of that Athenian, who imagined all the ships which entered the Piræum, to belong to him, was owing to no other cause.

§ 84. By this explication we may easily conclude how dangerous the reading of romances must be to young ladies who have generally a lively imagination. As from the nature of their education their minds are seldom sufficiently employed, they eagerly embrace such fictions as flatter the passions so natural to their age. There they find materials for the *finest castles in the air*. These they make use of so much the more readily, as the desire of rendering themselves agreeable, and the continual flattery of our sex, help to feed this ridiculous taste. Then there needs only a slight disappointment perhaps to turn a girl's brain, to persuade her that she is Angelica, or any other heroine that has pleased her fancy, and to make her take every man that comes near her for a Medorus.

§ 85. There are other works written with a quite different view, which are yet liable to the like inconveniences: I mean some particular books of devotion penned by men of strong imaginations. These are apt sometimes to turn a woman's brain, even so far as to make her imagine that she has visions, that she is conversing with angels, or even that she is already in company with them in heaven. It were to be wished that young persons of both sexes were always well instructed in regard to this sort of reading, by directors acquainted with the temper of their imagination.

§ 85. Such frenzies as these are known to all the world. There are others, which no body thinks of calling by the same name: and yet every error whose source is in the imagination, ought to be ranked in the same class. If madness is to be determined only by the consequence of error, we shall never be able to fix the point where it begins. It must therefore be made to consist in such an imagination, as, unknown to us, associates ideas in an irregular manner, and sometimes influences our judgment, and even our conduct. If this be the case, very probably no one will be exempt from it. The wisest man shall differ from the greatest blockhead only in this, that luckily for him the irregularities of his imagination have such things for their object as interfere but little with the ordinary course of life, and do not create so visible a difference between him and the rest of mankind. And indeed where is the person whom some favourite passion does not constantly engage, upon certain occasions, to follow the strong impression which the objects make upon his imagination, and thus is the cause of his relapsing into the same faults? let us but observe the schemes that men form in regard to their conduct; for here is the rock upon which human reason generally splits. What prejudices, what blindness even in persons of the best understanding! though their miscarriage shews them their error, yet they will not alter their conduct. The same imagination will continue to seduce them; you may see them just ready to commit such another mistake as the first, and you shall not be able to convince them of their folly,

§ 87. The

§ 87. The impressions made on phlegmatic constitutions are very durable. Hence it is that persons of a grave and sedate deportment, have no other advantage, if it be really an advantage, than always to preserve the same irregularities. By this means their madness, which escapes one at first sight, becomes more distinguishable to those who have observed them for some time. On the contrary, in persons of a brisk active disposition, the impressions are effaced, and again revived, so that there is a constant succession of mad actions. You perceive that such a man's mind is subject to some irregularity, but he changes with such rapidity, that you can scarce observe it.

§ 88. The power of the imagination has no bounds. It diminishes or even dispels our pains, and alone is capable of giving that relish to pleasures which constitutes their whole value. But sometimes it is the most bitter enemy we have; it increases our evils, it afflicts us with other evils which we had not before, and ends with poisoning the very sources of life.

In order to account for these effects, I must observe in the first place, that as the senses act upon the organ of the imagination, this organ reacts upon the senses. This cannot be at all doubted: for experience shews such a reaction even in the least elastic bodies. Secondly I observe that the reaction of this organ is more lively than the action of the senses, because it does not react upon them with that force alone which is supposed by the perception they have produced, but with the united force of all those which are intimately connected with this per-

ception, and which for this very reason must needs have been revived. If so, it is not difficult to comprehend the effects of the imagination. Let us come to examples.

The perception of pain revives in my imagination all the ideas with which it has an intimate connexion. I see the danger, I am frightened, I am cast down, my body is scarce able to support itself, the pain becomes more intense, my dejection increases, and from my imagination's being struck, it is possible that a disorder, which in the beginning was but very slight, may bring me to my grave.

The enjoyment of a pleasure which I have been long pursuing, revives all the agreeable ideas with which that pleasure can possibly be connected. The imagination returns several perceptions to the senses for one that it receives. My spirits are in such a motion as to dispel every thing that is capable of depriving me of my present sensation. In this situation, quite resigned to the perceptions which I receive by the senses, and to those reproduced by the imagination, I feel the most exquisite pleasures. But suppose the action of my imagination is interrupted, I immediately awake as it were out of a trance; I have then in view the objects on which I fixed my happiness, I search for them, and yet I see them no longer.

By this explication we may conceive that the pleasures of the imagination are intirely as real and as natural as the others, notwithstanding what is commonly said to the contrary. I shall give only one example more.

A man

A man tormented by the gout, and unable to stand upon his legs, sees his son safely returned at the very time when least he expected it, and when he imagined him to be lost: this joyful sight makes him forget his pain. A moment afterwards his house is on fire: and the fright makes him recover his lost strength. He is now out of danger, when they think of giving him assistance. This is because his imagination from the sudden and strong surprize, reacts on all the parts of the body, and produces the revolution which saves his life.

These are I think the most amazing effects of the imagination. In the following chapter I shall say a word or two concerning those graces with which it embellishes truth.

C H A P. X.

From whence the imagination derives those graces with which it embellishes truth.

§ 89. **T**HE imagination derives her graces from the privilege she has of borrowing whatever appears most amiable and most agreeable in the various parts of nature, in order to adorn the subject she handles. Nothing comes amiss to her; she makes every thing her own, as soon as she knows it can increase her lustre. She is like a bee that culls the treasure from the choicest flowers: or like a coquette, who eager to please her admirers, consults her caprice rather than her reason. Always complaisant, she accommodates herself to our tastes, to our passions,
and

and to our weaknesses. One she attracts and persuades by her lively and winning air; another she surprises and astonishes by her grand and noble deportment. Sometimes she diverts us with her entertaining discourse; at other times she succeeds by the boldness of her sallies. Here she affects a softness in order to engage us: there she languishes and weeps in order to move us; and if occasion requires, she will soon put on the mask to excite us to laughter. As she is secure of her empire, she wantonly exercises her caprice in every thing. Sometimes she is pleased with giving an air of grandeur to the most trivial subjects; and at other times to give an air of ridicule to subjects the most serious and the most sublime. Though she alters every thing she touches, yet she frequently succeeds, when she endeavours only to please: in every other case she must necessarily miscarry. Her empire ceases, where that of analysis commences.

§ 90. She borrows not only of Nature, but likewise of the most absurd and most ridiculous chimeras, provided they have the sanction of prejudice. Little does it signify whether they are false or not, if we are inclined to think them true. The chief point the imagination has in view is amusement; yet she is not at variance with truth. Her fictions are all just, when conformable to the analogy of our nature, to our knowledge, and to our prejudices. But as soon as she deviates from these, her ideas become monstrous and extravagant. This is, in my opinion, what renders the following thought of Boileau so just.

Sect. 2. HUMAN KNOWLEDGE. 91

In all things, truth should like an empress reign,
And ev'n o'er fable her matchless sway maintain :
This beauteous form alone deserves our love,
By men rever'd, as by the gods above,

And indeed, truth is the property of fable ; not that things are absolutely as she represents them, but because she exhibits them under clear and familiar images, such as please us of course, without leading us into error.

§ 91. Nothing is beautiful that is not true : and yet every truth is not always beautiful. In order to supply this defect, the imagination connects it with ideas the most proper for embellishing it, and by this reunion it forms a whole, in which we find both solidity and amusement. Of this there are an infinite number of instances in poetry. There we see how fiction, which would be always ridiculous if divested of truth, embellishes truth, which would be always insipid, if divested of fiction. This mixture is ever pleasing, provided the ornaments are chosen with discernment, and judiciously scattered. And indeed the imagination is the same as dress to a beautiful person : it must lend her every assistance, in order to appear with all the advantage her form is capable of receiving.

I shall not dwell any longer on this part of the imagination, which indeed would require a separate work : it is sufficient for my purpose, that I have not forgot to make mention of it,

C H A P. - XI.

Of reason, wit, and its different kinds.

§ 92. **F**ROM the several operations we have been describing, there results one which crowns, as it were, the understanding; and that is reason. Whatever idea we form of it, every body agrees that it is by reason alone we are enabled to conduct ourselves prudently in life, and to make any progress in the search after truth. From hence we must conclude, that reason is nothing more than the knowledge of the manner in which we ought to regulate the operations of the mind.

§ 93. Explaining myself thus, I do not think I go out of the beaten road: I only determine an idea which I have no where found sufficiently exact. I even obviate all those invectives which are uttered against reason, only because of its being taken in too vague a signification. Shall it be said that nature made us a present becoming a step-mother, when she gave us the means of wisely conducting the operations of our minds? Can such a notion ever come into our heads? Shall it be said, that if the soul was not endowed with the several operations we have been mentioning, she would be a vast deal happier, because they are the cause of much vexation by the abuse she makes of them? Why then do not we reproach nature for having given us a mouth, arms, and other organs, which are oftentimes the instruments of our unhappiness? Perhaps we should be glad to participate only of so much of life as is necessary to render

us sensible of our existence, and should willingly resign the several operations which raise us so much above the level of brutes, only to enjoy their instinct.

§ 94. But what is the use, some will say, which we ought to make of the operations of the mind? How often, and yet how unsuccessfully have the utmost endeavours been employed to make this discovery? And can we flatter ourselves that we shall succeed better at present? I answer, that we must therefore complain of having had no share at all of reason. But to be serious: let us enter into a thorough study of the operations of the mind; let us learn their full extent, without concealing their weakness; let us exactly distinguish them; let us develop their several springs; let us shew the advantages and abuses of them; let us see what assistance they lend to each other; in short, let us apply them only to the objects within our reach, and I engage we shall learn the use we ought to make of them. We shall find that we have had as much reason to our share as our state required; and that he of whom we hold all we have, does not lavish, but wisely distributes his favours.

§ 95. There are three operations which we ought to compare with each other, the better to understand the difference between them. These are instinct, madness and reason. Instinct is no more than the imagination, as independent of our command, though by its activity, completely concurring to the preservation of our being. It excludes memory, reflexion and the other operations of the mind. On the contrary, madness admits of all the operations; but these

these are directed by an irregular imagination. In fine, reason results from all the operations well conducted. If Mr. Pope had but formed to himself clear ideas of these things, he would not have de-claimed as he did against reason, and much less would he have concluded:

And reason raise o'er instinct as you can;

In this 'tis God directs, in that 'tis man.

Essay on man, ep. 3.

§ 96. It is easy here to explain the distinction that is made between *above reason*, according to reason, and *against reason*. Every truth that includes such ideas as cannot be the object of the operations of the mind, because they have not been able to enter by the senses, nor are derived from sensations, is *above reason*. A truth, which contains none but ideas on which the mind can operate, is according to reason. In fine, every proposition that contradicts another proposition resulting from the operations of the mind rightly conducted, is *against reason*.

§ 97. It may easily be observed, that in the notion of reason, and in the new analysis I have given of the imagination *, there are no other ideas than those of the operations which have been the subject of the eight first chapters of this section. And yet it was proper to consider these things separately, in order either to conform to custom, or to point out more exactly the different objects of the operations of the mind. I even think we ought likewise to comply with custom, when it distinguishes between good

* The foregoing chapter.

sense, wit, understanding, penetration, profoundness, discernment, judgment, sagacity, taste, invention, talent, genius, and enthusiasm: it will suffice if I mention only a word or two concerning these particulars.

§ 98. Good sense and understanding are no more than to conceive or to imagine, and differ only by the nature of the object with which we are occupied. To comprehend, for instance, that two and two make four, or to comprehend a whole course of mathematics, is equally to conceive; but with this difference, that one is called good sense, and the other understanding. In like manner to imagine common things, such as every day are obvious to our sight, no more than good sense is wanting: but to imagine new things, especially if they are of any extent, understanding is requisite. The object of good sense seems therefore to lye only in what is easy and common; while understanding makes us conceive or imagine things of a newer or more compound nature.

§ 99. For want of a proper method of analyzing our ideas, we are often satisfied with understanding one another within a small matter. Of this we have an example in the word *wit*, to which we generally annex a very indeterminate idea, though it be in every body's mouth. Whatever the signification of it may be, it cannot extend beyond the operations whose analysis I have given. According as these operations are separately considered, as several of them are united, or as they are all viewed at the same time, we form different notions, to which we commonly give the name of *wit*. But we must lay down as a condition,

dition, that we conduct these operations in a superior manner, such as shall shew the activity of the understanding. Those in which the mind hardly acts of its own accord, do not deserve this name. Thus the memory and the operations preceding it, do not constitute what we call *wit*. Even if the activity of the mind has only common things for its object, this is still but good sense, as I have already mentioned. Wit comes immediately after, and would be at its highest pitch in a man who on every occasion were capable of perfectly conducting all the operations of his understanding, and could make use of them with all possible facility. Such a model we shall never find; but we must suppose a notion of this kind in order to have a fixed point, from which we may be able to remove to a greater or lesser distance by different ways, and thus to form to ourselves some idea of the inferior species. I confine myself to those which have been distinguished by names.

§ 100. Penetration supposes us capable of attention, reflexion, and analysis sufficient to pierce even into the inward nature of things: profoundness supposes that we go to the bottom of them, so as to discover their several springs, that we see from whence they proceed, what they are, and what is to become of them.

§ 101. By discernment and judgment things are compared, the difference between them is settled, and their mutual value exactly regulated: but the first is more particularly said of those which relate to speculation; and the second of such as regard practice. Discernment is requisite in philosophical researches; judgment, in the conduct of life.

§ 102.

§ 102. Sagacity is only that quickness of mind with which we discover an object with greater ease, or make others more easily comprehend it: this is the work of the imagination, joined to reflection and analysis.

§ 103. Taste is so happy a kind of sensation, that we perceive the value of things without the aid of reflexion, or rather without making use of any rule to judge of them. It is an effect of the imagination, which having early acquired the habit of entertaining itself with agreeable objects, preserves them always present, and naturally forms them into patterns. Hence it is that good taste is generally the portion of people who have seen the world.

§ 104. We do not properly create any ideas; we only combine, by compounding and decomposing, those which we receive by the senses. Invention consists in knowing how to make new combinations: there are two kinds of it; talent, and genius.

Talent combines the ideas of an art, or of a science, in such a manner as is proper to produce those effects, which should naturally be expected from it. Sometimes it requires more imagination, sometimes more analysis. Genius adds to talent the idea in some measure of a creative mind. It invents new arts, or in the same art, new branches equal, and even sometimes superior to those already known. It examines things in a point of view peculiar to itself; it gives birth to a new science; or in those already cultivated it opens a road to truths, which it never expected to reach. To those which were known before, it communicates a perspicuity and ease of which they were not thought susceptible.

tible. The character of a man of talents may be common to others, by whom he is equalled, or even surpassed. But the character of a man of genius is original, is inimitable. Hence it is that the great writers who succeed him, seldom venture to try their strength in that kind of writing in which he excelled. Corneille, Moliere, and Quinault, have had no imitators. And we have some moderns, whom probably it will be in vain to imitate.

Genius is sometimes called extensive, sometimes vast. Extensive is when it makes a great progress in one kind; vast is when it unites so many kinds, and to such a degree, that we have some difficulty to imagine it has any limits.

§ 105. We cannot analyze enthusiasm when we feel it, because at that time we are not masters of our reflexion. But how can we analyse it when we do not feel it? By considering the effects it has produced. On this occasion the knowledge of the effects ought to lead us to the knowledge of their cause, and this cause can be only one of the operations which we have already analyzed.

When the passions throw us into violent agitations, so as to deprive us of the use of reflexion, we feel a thousand different Sensations. This is because the imagination being heated, according as the passions are more or less lively, it awakes with greater or lesser force those sensations which have some relation to, and consequently some connexion with our present situation.

Let us suppose two men in the same circumstances, and actuated by the same passions, but in an unequal degree of force. On the one hand let us
take,

Sect. 2. HUMAN KNOWLEDGE. 99

take, for instance, old Horatius, such as he is represented in Corneille, with that Roman soul, which prompts him to sacrifice his own children to the welfare of the republic. The impression he receives, when he hears that his son has turned his back, is a confused assemblage of every sentiment, that the love of one's country, and the thirst of glory, carried to the highest pitch, can possibly inspire : even to such a degree as not to regret the loss of two of his sons, but rather to wish that the third had also perished. These are his sentiments : but shall he express them each in particular ? No ; this is not the language of the grand passions. Neither will he be satisfied with expressing one of the weakest of them. He will naturally prefer that which actuates him with the greatest violence ; and he will dwell upon it, because from the connexion it has with the rest, it sufficiently includes them. Now what sentiment is this ? it is to wish that his son had been slain : for such a desire either never takes possession of a father's soul ; or, when it does, it entirely possesses him. This is the reason that when they ask him what his son could have done against three, he answers, *he could have died.*

Let us suppose, on the other hand, a Roman, who, though sensible to the glory of his family, and to the safety of the republic, had nevertheless experienced much weaker impulses of passion than old Horatius ; I fancy he would have nearly preserved his intire presence of mind. The sensations which the notion of honour, and the love of his country would have produced in his soul, must have had a weaker effect upon him ; and each very

near in an equal degree ; he would not have been inclined to express the one rather than the other ; consequently it would have been natural for him to have vented them each in particular. He would have mentioned, how greatly he was afflicted to behold the ruin of the republic, and the shame and disgrace which his son had brought upon himself ; he would have laid his commands on him never to appear in his presence ; and instead of wishing his death, he would have only declared that it would have been better for him to have undergone the same fate as his brothers.

Whatever we understand by enthusiasm, it is sufficient to know, that it is opposite to indifference or unconcernedness, in order to observe that it is impossible for us, without enthusiasm, to put ourselves in the place of Corneille's old Horatius. The same cannot be said in regard to putting ourselves in the place of the other man. Let us give another example.

If Moses, speaking of the creation of light, had been less affected with the idea of the divine grandeur, he would have expatiated in demonstrations of the power of the supreme Being. On the one hand he would have neglected nothing to exalt the excellency of light, and on the other he would have represented darkness as a chaos in which all nature was involved. But, to enter into these particulars, he was too much affected with the idea of the superiority of the supreme Being, and the dependance of his creatures. Hence as the ideas of command and obedience are connected with those of superiority and dependance, they must of necessity have presented themselves to his mind, and he must have dwelt upon them,

Sect. 2. HUMAN KNOWLEDGE. 101

them, as sufficient to express all the rest. He was therefore contented with saying, *God said, let there be light, and there was light.* By the number and beauty of ideas which these short expressions excite at the same time, they have the advantage of striking the soul in a surprizing manner, and for this reason are what we call *the sublime*.

In consequence of these analyses, the notion I form to myself of enthusiasm, is this: it is the situation of a man, who considering with attention the circumstances in which he is placed, is strongly moved by the different sentiments which they must needs produce; and who to express what he feels, naturally chuses from among those sentiments that which is the most lively, and which alone is equivalent to the rest, by the strict connexion it has with them. If this situation is only of short duration, it occasions a lively expression; if it lasts for any time, it may produce an intire piece. Reserving our presence of mind, we might imitate the transports of enthusiasm, if we were accustomed to analyze the fine passages, which poets put into the mouths of persons seized with enthusiastick fits. But would the copy be always equal to the original?

§ 106. *Wit* is properly the instrument by which we acquire such ideas as differ from vulgar notions. Hence our ideas are of a very different nature according to the kind of operations which more particularly constitute each person's wit. The effects cannot be the same in a person in whom you suppose more analysis with less imagination, as in another in whom you suppose more imagination with less analysis. The imagination alone is susceptible

of a great variety, and sufficient to form different species of wit. We have models of each in the writers of our nation, but they are not all distinguished by names. Besides, in order to consider wit in all its effects, it is not sufficient to have given the analysis of the operations of the understanding, we must likewise give that of the passions, and observe how all these things are combined and confounded in one single cause. The influence of the passions is so great, that without them the understanding would frequently have scarce any employment at all; and in order to have wit, all that is wanting sometimes to a man, is passions. They are even absolutely necessary for some talents. But an analysis of the passions belongs rather to a work written on the progress, than to that which speaks only of the origin, of human knowledge.

§ 107. The principal advantage arising from the manner in which I have considered the operations of the mind, is that we evidently see in what manner good sense, wit, reason and their contraries equally result from the same principle, which is the connexion of ideas one with the other; and that tracing things still higher, we see that this connexion is produced by the use of signs. This is the principle we lay down: I shall now conclude with a recapitulation of what has been hitherto said.

We are capable of more reflexion in proportion as we have more reason: consequently this last faculty is productive of reflexion. On the one hand reflexion renders us masters of our attention; therefore it begets attention: on the other hand, it makes us connect our ideas; therefore it occasions memory.

From

Sect. 2. HUMAN KNOWLEDGE. 103

From thence arises analysis; and hence is formed reminiscence, which gives occasion to the imagination (I take this word here in the sense which I have already given it.)

It is by means of reflexion that the imagination becomes subject to our power; nor have we the habit of memory at our disposal, till a long time after we have acquired a thorough mastery of the imagination; and these two operations are productive of conception.

The understanding differs from the imagination in the same manner as the operation which consists in conceiving differs from analysis. With regard to the operations which consist in distinguishing, comparing, compounding, decompounding, judging, reasoning; they arise one from the other, and are the immediate effects of the imagination and memory. Such is the origin of the operations of the mind.

It is a point of importance to understand all these things thoroughly, and especially to remark the operations which form the understanding (it is plain I do not take this word in the same sense as others) and to distinguish them from those it produces. On this difference the remaining part of this work is built; this is the foundation of it. To those who should happen not to attend to this difference, every thing will appear confused.

SECTION III.

Of simple and complex ideas.

§ 1. **B**Y complex idea I mean the reunion or collection of several perceptions; and by simple idea a perception singly considered.

“ Though the qualities that affect our senses,
 “ says Mr. Locke *, are, in the things themselves,
 “ so united and blended, that there is no separation,
 “ no distance between them; yet it is plain, the ideas
 “ they produce in the mind, enter by the senses simple
 “ and unmixed. For though the sight and touch
 “ often take in from the same object, at the same
 “ time, different ideas, as a man sees at once motion,
 “ and colour; the hand feels softness and
 “ warmth in the same piece of wax: yet the simple
 “ ideas thus united in the same subject, are as perfectly
 “ distinct as those that come in by different
 “ senses; the coldness and hardness which a man
 “ feels in a piece of ice, being as distinct ideas in
 “ the mind, as the smell and whiteness of a lily,
 “ or as the taste of sugar, and smell of a rose: and
 “ there is nothing can be plainer to a man than
 “ the clear and distinct perception he has of those
 “ simple ideas; which being each in itself uncompounded,
 “ contains in it nothing but one uniform
 “ appearance or conception in the mind, and is not
 “ distinguishable into different ideas.”

Though our perceptions are susceptible of more or less vivacity, yet it would be wrong to imagine

* Essay on Human Understanding, book 2. c. 2. § 1,

that

that each is compounded of several others. Suppose you were to mix colours which differ only as they are more or less vivid, they would produce only one perception.

It is true that we are apt to look upon as different degrees of the same perception, all those which have less distant relations. Yet this is because for want of having as many names as perceptions, we have been obliged to reduce the latter to certain classes: separately considered, there are none of them but what are simple. How can we, for instance, decompound the perception caused by the whiteness of snow? shall we distinguish several other whitenesses of which it is formed?

§ 2. All the operations of the mind considered in their original, are equally simple; for each is then no more than one perception. But afterwards they are combined in order to act together in concert, and they form compound operations. This appears very plain in what we call *penetration, discernment, sagacity, &c.*

§ 3. Besides the ideas which are really simple, we often look upon a collection of many perceptions as such, when related to a larger collection of which it constitutes a part. There is even no notion, how compound soever, but may be considered as simple, by annexing the idea of unity to it.

§ 4. Among complex ideas some are compounded of different perceptions, such as that of body: others are compounded of uniform perceptions, or rather they are only the same perception several times repeated. Sometimes the number is not determined, such is the abstract idea of extension;

sion : at other times it is determined ; a foot, for example, is the perception of an inch twelve times repeated.

§ 5. With regard to the ideas formed of different perceptions, there are two sorts : those of substances, and those compounded of simple ideas which relate to the different actions of men. The former to be of any use, must be formed after the pattern of substances, and must represent none but the properties which substances include. In the others a different conduct is observed. It is frequently of consequence to form them, before having seen any patterns ; and moreover these patterns generally speaking would be too vague to serve as a rule. An idea of virtue or of justice framed in this manner, would vary according as particular cases admitted of particular circumstances : and the confusion would be carried so far, that we should no longer be able to discern justice from injustice ; an error into which a great many philosophers have fallen. What remains therefore is only to collect after our own choice several simple ideas, and to take these collections when once determined, for the criterion by which we are to judge of things. Such are the ideas annexed to these words ; *glory, honour, courage* : I shall call them *archetypes* ; a term sufficiently authorized by modern metaphysicians.

§ 6. Since simple ideas are only our own perceptions, the only way to know them, is to reflect on what we experience at the sight of objects.

§ 7. It is the same thing in regard to those complex ideas, which are only an indeterminate repeti-

Sect. 3. HUMAN KNOWLEDGE. 107

tion of the same perception. It is sufficient, for instance, to have an abstract idea of perception, without considering any determinate part of it as repeated a certain number of times.

§ 8. As my business is to consider ideas only in regard to the manner in which we come to know them, I shall make of these two sorts but one class. Therefore when I speak of complex ideas, I am to be understood of those which are formed of different perceptions, or of the same perception repeated in a determinate manner.

§ 9. We cannot have a right knowledge of complex ideas, taken in the sense to which they have been just now confined, without analyzing them; that is, we must reduce them to the simple ideas of which they are compounded, and follow the progress of their formation. It is thus we have framed to ourselves an idea of the understanding. Philosophers have hitherto been ignorant that this method might be practised in metaphysics: the means they use to supply this defect, only increase the confusion, and multiply disputes.

§ 10. From hence we may conclude the inutility of definitions; that is, of those propositions wherein we attempt to explain the properties of things by a *genus* and *difference*. 1°. It is impossible to use them, when treating of simple ideas. This has been demonstrated by Locke*; and it is very extraordinary that he is the first who made this observation. As those philosophers who wrote before him, did not know how to discern those ideas which were

* Book 3. c. 4.

definable from those which were not so, we may easily judge of the confusion which is to be found in their writings. The Cartesians were not ignorant that there are some ideas much clearer than all the definitions that can be given of them; but they did not know the reason of this, obvious as it may seem to be. Thus they give themselves a great deal of pains to define some very simple ideas; while they think it needless to define others that are extremely complex. This shews how difficult it is to make even the smallest progress in philosophy.

Secondly, definitions are of very little use in giving an exact idea of things of a complex nature. Even the very best of them are not equivalent to an imperfect analysis. This is because they are always made up in part of some *gratis dictum*; or at least there are no rules to assure us of the contrary. In making an analysis we are obliged to follow the very original of the thing: so that when it is well made, it infallibly reconciles opinions, and thereby puts an end to disputes.

§ 11. Though geometricians are no strangers to this method, yet they are not exempt from mistakes. Sometimes they happen not to hit on the real origin of things, even on occasions, where it would not be difficult to do it. Of this we have a proof at the very entrance of geometry. After telling us that a point is *that which terminates itself on every side; that which has no other bounds than itself; or that which has neither length, breadth, nor depth*, they make it move in order to produce a line. Afterwards they make a line move to produce a surface; and a surface to produce a solid,

In

Sect. 3. HUMAN KNOWLEDGE. 109

In the first place I observe that they fall here into the same mistake as other philosophers, viz. they want to define a very simple thing: a mistake that may be said to be one of the consequences of their favourite synthesis, which requires that every thing be defined.

Secondly, the word *bounds* so necessarily implies a relation to something extended, that it is impossible to imagine a thing which terminates itself on every side, or which has no other bounds than itself. Besides, the privation of length, breadth, and depth, is not an idea easy enough to be the first exhibited.

Thirdly, we cannot represent to ourselves the movement of a point without extension, and much less the track which it is supposed to leave behind it to produce a line. With regard to a line, we may indeed apprehend it in motion according to the determination of its length, but not according to the determination which should produce a surface; for then it is in the same case as a point. The same we may say in respect to a surface moved to produce a solid.

§ 12. It appears very plainly that the intent of geometers was to conform themselves to the origin of things, or to that of ideas; but they have not succeeded.

It is impossible to have the use of one's senses, without immediately having the idea of extension with all its dimensions. - That of solidity is therefore one of the first which they transmit to us. Now suppose you take a solid, and consider one extremity of it, without attending to its breadth, you shall have the idea of a surface, or of an extension in

length and breadth without depth. For your reflexion is no more than the idea of the thing on which it is employed.

Suppose you take this surface afterwards, and think on its length without minding its breadth; you shall have the idea of a line, or of extension in length, without breadth and without depth.

If in fine you reflect on an extremity of this line, without attending to its length, you shall form to yourself the idea of a point, or of that which in geometry is taken for what has neither length, breadth, nor depth.

By this means you shall easily frame to yourself the ideas of a point, line, and surface. It is obvious that all this depends on the study of experience, in order to explain the origin of ideas in the same order, in which they are framed. This method is particularly indispensable, when we are treating of abstract ideas; for it is the only way of explaining them with perspicuity.

§ 13. We may observe two essential differences between simple and complex ideas. 1°. The mind is merely passive in the production of the former; it cannot form to itself the idea of a colour which it has never seen. On the contrary it is active in the formation of the latter. It is the mind that connects the simple ideas either from some pattern, or of its own choice; in a word, they are the effect of reflexion and experience. I shall more particularly distinguish them by the name of *notions*. 2°. We have no measure to find out the excess of one simple idea beyond another; and the reason is because they cannot be divided. It is not the same
in

Sect. 3. HUMAN KNOWLEDGE. III

in regard to complex ideas: we know exactly the difference of two numbers, because the unit, their common measure, is always equal. We may likewise reckon among simple ideas, some complex notions, which being formed of different perceptions, have not so exact a measure as an unit. If there are any relations which cannot be rated, it is only those of simple ideas. For example, we exactly can tell the difference between the ideas annexed to the word *gold*, and those annexed to the word *pinchbeck*, but cannot measure the difference of the colour of these metals, because the perception of them is simple and indivisible.

§ 14. Simple and complex ideas agree in this, that they may be equally considered as absolute and as relative. They are absolute, when dwelling upon them, we make them the object of reflexion without comparing them to others. But when considered as subordinate to one another, they are called relations.

§ 15. Archetypes have two advantages: the first is that of being adequate; they are standing patterns, of which the mind is capable of acquiring so perfect a knowledge, that there shall remain nothing further for it to discover. This is evident, because these notions cannot include any other simple ideas, than such as the mind itself has collected. The second advantage is a consequence of the former; it consists in this, that all the relations between them may be perceived; for by knowing the several simple ideas of which they are formed, we are able to make every possible analysis of them.

But

But the notions of substances have not the same advantages: they are necessarily inadequate, because we compare them to patterns, in which we can every day discover new properties. Consequently, we cannot know the several relations between two substances. It may be commendable to endeavour at an increase of our knowledge in this respect by experience; but it is ridiculous to flatter ourselves with the hopes of ever rendering it perfect.

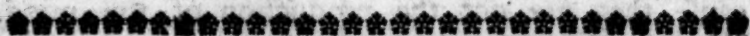
And yet we must take notice that this knowledge is not obscure and confused, as some people imagine; it is only limited. It is in our power to speak of substances with the utmost exactness, provided we do not include in our ideas and in our expressions, any more than what we have learnt from constant observation.

§ 16. The synonymous terms *thought*, *operation*, *perception*, *sensation*, *consciousness*, *notion*, are of such great use in metaphysics, that it is essentially necessary to mark the difference between them. *Thought* I call whatever the mind feels, whether by external impression, or by the use it makes of its reflexion: *operation*, thought, inasmuch as it is proper for producing some change in the mind, and by this means of instructing and conducting it: *perception*, the impression produced within us at the presence of the objects: *sensation*, this very impression as it comes by the senses: *consciousness*, the notice we take of it: *idea*, the notice we take of it as an image: *notion*, every idea which is our own production. This is the signification, in which I make use of these words. They cannot be taken indifferently one for the other, except when we have need only

only of the principal idea which they signify. Simple ideas may indiscriminately be called perceptions or ideas ; but we cannot call them notions, because they are not the production of the mind. We should not say the *notion of white*, but the *perception of white*. Notions in their turn may be considered as images : consequently we may give them the name of *ideas*, but never that of perception. This would be signifying that they are not our production. We may say the *notion of boldness*, but *not the perception of boldness* : or if we have a mind to make use of this term, we must say the *perceptions which compose the notion of boldness*. In a word, as we have no other consciousness of the impressions made within the mind, than as of something simple and indivisible ; the term *perception* ought to be confined to simple ideas, or at least to those which are considered as such with regard to more complex notions.

I have still a remark to make on the words *idea* and *notion* : this is, that as the former signifies a perception considered as an image, and the second an idea which the mind has framed to itself, ideas and notions can appertain only to beings capable of reflexion. Brutes have only sensations and perceptions : that which in them is no more than a perception, becomes an idea in us by the reflexion we make, that this perception represents something.

SECTION IV.



CHAP. I.

Of the operation by which we give signs to our ideas.

THIS operation is the result of the imagination, which presents signs to the mind with which it had been as yet unacquainted; and of the attention which connects them with our ideas. It is one of the most essential operations in the study of truth; and yet it is one of those which are least known. I have already shewn the use and necessity of signs in acquiring a habit of the operations of the mind. I shall now demonstrate the same thing, considering them in regard to the different species of ideas. This is a truth which cannot be too often exhibited under different views.

§ 1. Arithmetic furnishes us with a very sensible example of the necessity of signs. If after having given name to a unit, we did not successively imagine others for the several ideas which we form by the multiplication of this first one, it would be impossible for us to make any progress in the knowledge of numbers. We discern different combinations, only because we have cyphers which are themselves very distinct. Take away these cyphers, take away all the signs in use, and we shall find it impossible to preserve any idea of those combinations. Can we form to ourselves a notion even of the smallest number, without

without considering several objects, each of which is in some measure the sign to which we affix the unit? For my part, I perceive the numbers *two* or *three*, only as I represent to myself two or three different objects. If I proceed to the number *four*, I am obliged, for greater ease, to imagine two objects on one side and two on the other: coming to number *six*, I cannot help distributing them by two and two, or three and three; and if I have a mind to go further, I shall soon be under a necessity of considering several units as a single one, and to reunite them for this purpose in a single object.

§ 2. Locke * makes mention of some Americans, who had no idea of the number thousand, because they had contrived names only for reckoning as far as twenty. I may add that they would have found some difficulty to form an idea of the number one and twenty; for the following reason.

From the nature of our way of calculating, it is sufficient to have ideas of the first numbers, in order to form ideas to ourselves of every number that can possibly be determined. This is because the first signs being given, we have rules for inventing others. Those who should be ignorant of this method so far as to be obliged to affix each combination to such signs as bear no analogy to one another, would find no assistance to direct them in the invention of signs: of course, they would not have the same facility as we in forming new ideas. Such in all probability was the case of those Americans. Hence they not only had no idea of the

* Book 2. c. 16. § 6. He says that he conversed with them.

number thousand, but it was even difficult for them to form immediately an idea of any number above twenty *.

§ 3. The progress therefore of our knowledge in numbers, is intirely owing to the exactness with which we have added the unit to itself, by giving to each progression a name which distinguishes it from the preceding and subsequent number. I know that a hundred exceeds a unit by ninety nine, and is less by a unit than a hundred and one, because I recollect that these are three signs which I have pitched upon to point out three successive numbers.

§ 4. We must not deceive ourselves, by imagining that the ideas of numbers separate from their signs, are something clear and determinate †. Nothing can reunite more units in the mind, than the very name to which they have been affixed. If a person should ask me the meaning of *a thousand*, what answer can I give him, but that this word fixes a certain combination of units in my mind? If

* There can be no manner of doubt of what has been here advanced, since the relation of M. de la Condamine. He makes mention (p. 67.) of a people who had no other sign to express the number three than this, *poellarrarorincourac*. These people having begun to reckon in so inconvenient a manner, it was not easy for them to reckon any farther. We ought not therefore to find it difficult to comprehend, that these were, as we have been assured, the boundaries of their arithmetic.

† Mallebranche thought that the numbers perceived by *pure understanding*, are something far superior to those which fall under the senses. St. Austin in his confessions, the Platonists, and all the favourers of innate ideas, laboured under the same prejudice.

he still asks me concerning this combination, it is evident that I cannot make him perceive it at once in all its parts. It remains therefore that I successively present to him the several names which have been invented to signify the progressions that precede it. I must learn him to join one unit to another, and to unite them by the sign *two*; a third to the two preceding, and to affix them to the sign *three*; and so on. By this, which is the only way, I shall conduct him from different numbers to a thousand.

Let him afterwards examine into his mind, and all he distinctly knows of the matter he shall find to be these three things: the idea of the unit, the idea of the operation by which he has several times added the unit to itself, and in fine the remembrance of having imagined the sign *thousand* after the signs *nine hundred and ninety nine, nine hundred and ninety eight, &c.* But surely it is neither by the idea of the unit, nor by the idea of the operation which has multiplied it, that this number is determined; for these things are equally found in all the other combinations. Therefore since the sign *thousand* belongs only to this combination, it is this sign alone that determines and distinguishes it.

§ 5. Hence it is beyond all manner of doubt, that if a person wanted only to calculate for himself, he would be equally obliged to invent signs, as if he wanted to communicate his calculations. But why should that which is true in arithmetic, not be the same in other sciences? Should we be capable ever to reflect on metaphysics and morals, if we had not invented signs to fix our ideas, in proportion as we formed new combinations? Should not

words be the same in regard to our ideas in the several sciences, as cyphers are to our ideas in arithmetic? In all probability the ignorance of this truth is one of the causes of the confusion which prevails in works of metaphysics and morality. In order to handle this subject methodically, we must take a cursory view of the several ideas which may be the object of our reflection.

§ 6. Nothing, I think, can be added to what has been already said concerning simple ideas. Certain it is that we frequently reflect on our perceptions without recollecting more than their names, or the circumstances in which we have experienced them. It is even by their connection alone with these signs, that the imagination is capable of reviving them at will.

The mind is so limited that we cannot revive a great number of ideas to render them all at the same time the subject of our reflexion. And yet it is oftentimes necessary that we should consider several of them together. This we do with the assistance of signs, which, by being combined, makes us consider them as if they were only one idea.

§ 7. There are two cases, in which we combine simple ideas under a single sign: this is done after some pattern, or without patterns.

I find a body, and I see that it is extended, figurate, divisible, solid, hard, capable of motion and rest, yellow, fusible, ductile, malleable, very heavy, fixed, and that it has a capacity of being dissolved in *aqua regia*, &c. It is very certain that if I cannot communicate to a person all at once an idea of these several qualities, I cannot recall them to my own mind, but by taking a review of them in succession

one

Sect. 4. HUMAN KNOWLEDGE. 119

one after the other. But if, upon finding myself incapable to view them all at the same time, I should think of one only, for example, of its colour; so inadequate an idea would be of no use to me, but would oftentimes make me confound this body with such as resemble it in this respect. To extricate myself from this difficulty, I invent the word *gold*, and I accustom myself to connect it with all the ideas above enumerated. When I come afterwards to think on the notion of gold, I perceive only the sound of the word *gold*, and the remembrance of having connected it with a certain number of simple ideas, which I cannot revive all at once, but which I have seen co-existing in the same subject, and which I recall to mind one after the other, just as my will directs.

We cannot therefore reflect on substances, but as we have signs to determine the number and variety of the properties which we have observed in them, and which we chuse to combine in complex ideas, according as they really are in the external objects. Let us for a moment forget all these signs, and try to revive the ideas of them; we shall find that words or other equivalent signs, are so greatly necessary, that they supply, as it were in our minds, the place which is occupied by the objects without. As the qualities of things would not coexist independently of us, were it not for the objects in which they are collected; so the ideas of them would not coexist in the mind, were it not for the signs in which they are in like manner united.

§ 8. The necessity of signs is still very obvious in those complex ideas which we form without patterns.

When once we have combined such ideas as we see no where else united, which generally happens in archetypes; who is it that could fix their combinations, if we did not connect them with words which are the chain, as it were, that hinders them from escaping our memory? If you imagine that the names of things are of no use, cancel them from your memory, and try to reflect on civil and moral laws, on virtues and vices, in short on all human actions, and you will soon perceive your mistake. You will acknowledge that at every combination you make, if you have no signs to determine the number of simple ideas which you wanted to combine, you can hardly advance one step without finding yourself in a labyrinth. You will be just in the same dilemma, as a person that should want to calculate, by repeating several times one, one, one, and did not imagine signs for each combination. This man would never form to himself the idea of twenty, because he could not be assured that he had exactly repeated all the units.

§ 9. Let us conclude that in order to have ideas on which we may be capable of reflecting, we have need of imagining signs that may serve as chains to the different combinations of simple ideas; and that our notions are exact, no farther than as we have invented regular signs to fix them.

§ 10. This truth is sufficient to convince those who are willing to reflect on what passes within themselves, how greatly the number of words which we have laid up in our memory, exceeds that of our ideas. This must naturally so happen; either because, as reflexion succeeds the memory, it has
not

not always carefully reviewed the ideas to which signs had been given; or because we find there is a considerable interval between the time, in which we begin to cultivate the memory of a child by imprinting on it a great many words, the ideas of which he is not as yet capable of remarking; and that in which he begins to be capable of analyzing his notions, in order to give some account of them. When this operation follows, it is too tardy to be able to keep pace with the memory, which from long practice has acquired activity and ease. How laborious a task would it be to examine all the different signs? They are therefore used just as they occur, and we are generally satisfied with coming pretty near their meaning. From thence it happens that of all operations, the analytic method is that which least obtains. How many men are there who never use it at all? By experience at least we find, that it has less practice, in proportion to the greater cultivation of the memory and imagination. I therefore repeat it; that whosoever enters into himself, will find a great number of signs to which he has annexed but very inadequate ideas, and even a great many to which he has annexed none at all. Hence arises that confusion which we find in the abstract sciences, a confusion which philosophers have not been able to remove, because none of them was acquainted with its original cause. Locke is the only one in favour of whom we are allowed to make some exception.

§ 11. From this truth it likewise appears, how simple and how admirable are the springs of human knowledge. The soul has felt various sensations
and

and operations: how then shall it dispose of these materials? By gestures, by signs, by sounds, by cyphers, by letters; by instruments so foreign as these from our ideas, we set them to work, in order to raise ourselves even to the sublimest knowledge. The materials are the same in all men; but the art of making use of signs varies; and from thence the inequality which is to be observed among mankind.

Take away from a superior genius the use of characters; and you debar him of a deal of knowledge to which a person of middling abilities may easily attain. Take away from him likewise the use of speech; and the fate of mutes will shew you to what narrow limits you confine him. In fine deprive him of the use of all sorts of signs, so as he shall not be able to make the least gesture with propriety, in order to express the most ordinary thought; and he will be no more to you than a driveler.

§ 12. It were to be wished that those who are entrusted with the education of children, were not ignorant of the first springs of the human mind. If a preceptor perfectly acquainted with the origin and progress of our ideas, entertained his pupil, only upon matters which have the nearest relation to his wants and to his age; if he managed so as to place him in such circumstances as are best adapted for learning him to form to himself precise ideas, and to fix them by constant signs; if even in playing he never made use of words, whose sense was not exactly determined; would not this be the way to open and enlarge the mind of his pupil? But how few parents are able to procure such tutors for
their

their children? and how fewer are those tutors who may be judged really capable of answering these expectations? And yet it is of service to know every thing that can contribute towards a good education. If it cannot be always put in practice, perhaps we may avoid at least whatever is directly contrary to it. We ought never, for instance, to confound children with paralogisms, sophisms, and other false argumentations. By giving ourselves such liberties of trifling, we run the risk of confounding and even vitiating their understandings. We should never use any captious arguments with them, by way of sharpening their wits, till their minds had attained to great perspicuity and precision. I should be glad that proper caution were used, to prevent every inconvenience that may happen; but reflexions of this nature would lead me too far from my subject. In the following chapter I shall confirm by facts what I think has been demonstrated in this; and from thence I shall have occasion of still developing more clearly my opinion.

CHAP. II.

Facts confirming what has been demonstrated in the preceding chapter.

“ § 13. **I**N the city of Chartres, a young man of
 “ three and twenty, a tradesman’s son,
 “ who was born deaf and dumb, began all of a
 “ sudden to speak, to the great surprize of the
 “ whole town. He informed them that three or
 “ four

“ four months before, he had heard the sound of
“ bells, and that he had been greatly astonished
“ at this new and unexperienced sensation. After-
“ wards a kind of water issued from his left ear,
“ and he then perfectly heard with both ears. He
“ was three or four months a listening without
“ saying a word, accustoming himself to repeat
“ softly what he had heard, and confirming himself
“ in the pronounciation and in the ideas annexed to
“ the words. At length he thought himself quali-
“ fied to break silence, and he declared that he
“ spoke, though as yet only imperfectly. Imme-
“ diately some eminent divines examined him in
“ regard to his past state, and their principal ques-
“ tions were on God, on the soul, on the moral
“ goodness and badness of human actions. He did
“ not seem to have carried his thoughts so far.
“ Though he was born of Catholic parents, went
“ to mass, and was taught to make the sign of
“ the cross, and to put himself on his knees in the
“ posture of a person that prays; yet he never had
“ joined any intention to those external actions, nor
“ did he understand what others meant by them. He
“ did not even distinctly know what it was to dye,
“ nor did he ever think about it. He led a mere ani-
“ mal life, intirely busied with the present objects of
“ sense, and with the few ideas transmitted by the
“ eyes. Nor did he extract from the comparison
“ of his ideas all that one would imagine he might.
“ Not that he wanted understanding; but the un-
“ derstanding of a man deprived of the communi-
“ cation of others, is so very little cultivated, that

to speak truly, he understood them less than it
“ 2

“ it thinks only as it is indispensably forced so to do
 “ by external objects. The principal fund of the
 “ ideas of mankind is their mutual converse.”

§ 14. This fact is in the Memoirs of the Academy of Sciences*. It were to be wished they had examined this young man concerning what few ideas he had, while he was without the use of speech; what were the first ideas he acquired after he recovered his hearing; what assistance he received either from external objects, or from what he heard said, or from his own reflexion, to form new ideas; in a word, concerning every thing that might give him an opportunity of improving his mind. Experience acts so early upon us, that it is not surprizing if we often mistake it for nature herself. On the contrary here it acts so late, that it would have been easy to have avoided any mistake. But the divines wanted to see what nature had done, and notwithstanding their abilities, they could make no discovery either of nature or of experience. All that we can do is to supply their account by conjectures.

§ 15. I imagine that for twenty three years, this young man was nearly in the same state as that wherein I represented the soul, when having no command as yet of her attention, she gives it to objects, not according to her choice, but as she is impelled by the force with which they act upon her. It is true that being brought up in society, he received from thence such assistance as made him connect some of his ideas with signs. There is no doubt but he could by gestures signify his necessities, and

* The year 1703, p. 18.

the things which might relieve them. But as he wanted names to point out those things which had not so great a relation to himself, and as he had little or no inducement to supply them by some other means, and he received no external assistance, he never thought of them except when he had an actual perception. His attention being intirely attracted by lively sensations, ceased with these sensations: then he had no habit of contemplation and much less of memory.

§ 16. Sometimes our consciousness, being divided among a great number of perceptions, which act upon us with very near an equal force, is so feeble and imperfect, that we have no remembrance at all of what we have felt. We scarce perceive that we exist: whole days would then slide away like moments without our making any difference between them; and we should a thousand times feel the same perception, without observing that we ever had it. A person who by the use of signs has acquired a great many ideas, and is become familiar with them, cannot long remain in this kind of lethargy. The greater his stock of ideas, the more reason there is to believe that some of them will have occasion to be revived, to exercise his attention, and to draw him out of this dead sleep. Consequently the fewer ideas, the more usual must this lethargy be. Judge therefore whether during the twenty three years that the young man of Chartres was deaf and dumb, his mind was often capable of attention, reminiscence, and reflexion.

§ 17. If the practice of these first operations was so limited, how much more so must that of the others

others have been? Incapable of fixing and exactly determining the ideas he received by the senses, he could neither by compounding nor decomposing them, form notions to himself just as he pleased. As he had not signs sufficiently commodious for comparing his ideas of the most familiar kind, he very rarely formed any judgment. It is even probable that for the first three and twenty years of his life, he did not form one single reasoning. To reason is to frame judgments, and to connect them by observing their dependency on one another. Now this young man could do no such thing, so long as he had not the use of conjunctions, or of particles expressing the relations of the different parts of speech. It was therefore natural *that he should not extract from the comparison of his ideas all that one would think he might have done.* His reflexion having only lively or new sensations for its object, had no influence on the greatest part of his actions, and but very little on the rest. He was directed only by habit and imitation, especially in things which had less relation to his wants. Thus it is that complying with what the piety of his parents required of him, he never thought on the motive they might have had, and was ignorant of any duty of intention. Perhaps the imitation was so much the more exact, as it was not accompanied by reflexion; for the minds of those are less subject to wander who are less capable of reflecting.

§ 18. One would think that to know what is life, it is sufficient to exist and to feel. And yet, though it may seem a paradox, I will venture to say that this young man had hardly any idea of life. To a being

being that does not reflect, even to ourselves in those moments in which though awake we scarce do more than vegetate, sensations are only sensations; nor do they become ideas till reflexion makes us consider them as the images of some thing. True it is they directed this young man in the pursuit of whatever was useful for his preservation, and kept him away from whatever might hurt him: but he followed their impression without reflecting on preservation or destruction. A proof of the truth here advanced is that he did not distinctly know what death was. If he had known what it was to live, would not he have seen as distinctly as ourselves, that death is only the privation of life * ?

§ 19. We find in this young man some feeble traces of the operations of the mind: but if we except perception, consciousness, attention, reminiscence, and imagination not as yet subject to our disposal, we shall not find the least vestige of the rest in a person whom we may suppose to have been deprived of all communication with society, and who with sound and perfect organs had been trained up, for instance, among the bears of the forest. Having scarce any reminiscence, he would frequently pass through the same state, without perceiving that he had ever been in it. Having no memory, he would have no sign to supply the ab-

* Death may be likewise taken for the passage from this life to another. But this is not the sense in which we are here to understand it. M. de Fontenelle having said that this young man had no idea of God, nor of the soul, it is plain that he had no idea of death taken for the passage from this to another life.

fence of things. His imagination not being subordinate to his command, his perceptions could be revived, only as chance should present to him an object with which some particular circumstances had connected those perceptions: in fine being without reflexion, he would receive the impressions which the objects made on his senses, and would obey them only by instinct. He would imitate the bears in every thing, have a cry almost like theirs, and creep on all four: we are so strongly inclined to imitation, that perhaps a Descartes in his situation would not try to walk erect.

§ 20. But here some will say, would not the necessity of providing for his wants, and of satisfying his passions, be sufficient for acquiring a habit of the several operations of the mind?

I answer in the negative; because so long as he lived without conversing with the rest of mankind; he would have no occasion to connect his ideas with arbitrary signs. He would have no memory; consequently his imagination would not be in his power: from whence it follows that he would be intirely incapable of reflexion.

§ 21. And yet his imagination would have one advantage over ours; which is that it would revive the objects in a more lively manner. We have so great a conveniency in recalling our ideas by the assistance of memory, that the imagination is seldom employed. On the contrary as this operation in the person abovementioned supplied the place of all the rest, its vivacity would be in proportion to his wants, and would revive the perceptions with greater

force. This may be confirmed by the example of blind people who have commonly a more exquisite sense of feeling than we; for the very same reason may be given in both cases.

§ 22. But this man would never be able of himself to dispose of the operations of his mind. To understand this, let us see under what circumstances he could acquire the act and habit of them.

Suppose that a monster which this man has seen devouring other animals, or which the brutes he lives with have learnt him to shun; advances towards him: this sight draws his attention, revives the idea of terror connected with that of the monster, and disposes him to fly. He escapes, but the tremor with which his body is seized, preserves the idea for some time present; this is contemplation: a little while after by chance he goes to the same place; the idea thereof revives that of the monster with which it was connected: this is imagination. In fine, since he knows himself to be the same being that was already in that place, he is likewise possessed of reminiscence. By this it appears that the habit of these operations depends on a certain concurrence of circumstances, which affect him in a particular manner; and consequently that it ought to cease, as soon as these circumstances cease. When this man's fright is over, if we suppose he does not return to the same place, or that he returns only when the idea of it is no longer connected with that of the monster, we shall find nothing in him that is adapted for recalling what he has seen. We cannot revive our ideas, but as they are connected with some

signs : his are connected only with the circumstances which gave rise to them : he cannot therefore recall them, but when he happens to be in those very circumstances. On this depends the habit of the operations of his mind : he has it not in his power, I repeat it again, to conduct them by himself. He can only obey the impression which the objects make upon him ; and we ought not to expect that he should be capable of giving any marks of reason.

§ 23. I am not here advancing mere conjectures. In the forests bordering on Lithuania and Russia, a boy about ten years old was caught in 1695, who had been brought up among bears. He shewed no marks of reason, spoke no language, but walked on all four, and formed such sounds as did not in the least resemble those of the human species. It was a long time before he could utter some words, and even then he did it in a very uncouth manner. As soon as he could speak, they interrogated him about his former state, but he remembered no more of it, than we do what has happened to us in our cradle.

§ 24. This fact sufficiently proves the truth of what I have advanced concerning the progress of the operations of the mind. It was easy to foresee that this boy could not recollect his former state. He might remember some small matter of it at the very time he was taken out of it : but this remembrance being the effect of an attention rarely given, and never strengthened by reflexion, was so weak that the traces of it were cancelled during the space elapsed from the moment of his beginning to form

* Connor, in evang. med. art. 15. pag. 133. & seq.

ideas, and the time in which they could ask him any questions. Supposing, in order to try every hypothesis, that he had likewise remembered the time when he lived in the forest, it would have been impossible for him to represent it to himself but by the perceptions which he would have recalled to mind. These perceptions could be very few; and as he had no remembrance of those which had preceded, followed, or interrupted them, he would never have recollected the succession of the parts of this time. The consequence of this must have been, that he never would have suspected it to have had any beginning, and yet he would have considered it only as an instant. In a word, the confused remembrance of his former state would have reduced him to the absurdity of imagining himself to have always existed, though he was yet incapable of representing his pretended eternity to himself but as a moment. I do not question but he would have been greatly surprized, as soon as he had been told that he had begun to exist; and still more so when he had been also told that he had passed through different degrees of growth. Hitherto incapable of reflexion, he never would have taken notice of such insensible changes, so that he would naturally have been inclined to believe that he had been always the same as he found himself at the very instant when he was first induced to reflect on his condition.

§ 25. The learned secretary of the Academy of Sciences, has very judiciously observed, that the principal stock of the ideas of mankind, is derived from their mutual intercourse. The explication of this

Sect. 4. HUMAN KNOWLEDGE. 133

this truth, will fully corroborate all I have been saying.

I have distinguished three sorts of signs; accidental, natural, and instituted. A child nursed by bears has only the former. True it is that we cannot refuse him those sounds which are natural to each passion: but how could he imagine that they are the proper signs of the sensations he feels! If he lived in human society, he would so often hear them utter sounds like those which he makes himself, that some time or other he would connect those sounds with the sensations which they are designed to express. As to the bears, they cannot furnish him with the same opportunity; their roar hath not a sufficient analogy to the human voice. By the communication which these animals have with each other, probably they connect their cries with the perceptions which they signify: and this is what the boy here mentioned could not do. Therefore for conducting themselves by the impression of natural cries, they have helps which he cannot have; and there is a probability, that they have acquired a stronger habit of attention, reminiscence, and imagination, than he: but this is the utmost limits of all the operations of the soul of brutes*.

Since

* Locke (book 2. c. 11, § 10. and 11.) justly remarks, that brutes have not the power of abstracting. In consequence hereof he denies that they have the faculty of reasoning on general ideas, but he looks upon it as evident that some of them in certain instances reason on particular ideas. If this philosopher had discovered that it is impossible to reflect, but inasmuch as we have the use of instituted signs, he would have

Since men are incapable of making any signs, but by living in society, it follows of course, that the stock of their ideas, when their minds begin to be formed, intirely consists in their mutual communication. I say, *when their minds begin to be formed*, because it is evident, that when the mind has made some progress, it understands the art of making signs, and may acquire ideas without external assistance.

Let no one object, that before this communication the mind has ideas already, because it has perceptions: for perceptions which never were the object of reflexion, are not properly ideas. They are only impressions made on the mind, which must be considered as images before they can be ideas.

§ 26. It is needless in my opinion to add any thing further to these examples, or to the explanations given of them; they plainly confirm that we acquire a stronger habit of the operations of the mind, in proportion as we have the use of signs.

And yet there is one difficulty remaining; viz. that if the mind fixes its ideas only by signs, there is great odds but our argumentations will be oftentimes merely about words; which must be the source of many errors.

I answer that the certainty of the mathematics removes this difficulty. Provided we determine the acknowledged that brutes are absolutely incapable of reasoning, and consequently that such actions of theirs as appear rational, are no more than the effects of an imagination which they cannot command.

simple

Sect. 4. HUMAN KNOWLEDGE. 135

simple ideas annexed to each sign so exactly, as to be able to analyze them whenever there is occasion, we shall be in no more danger of being deceived, than the mathematicians when they make use of their signs. Indeed this objection shews that we must act with great precaution, to avoid engaging, like a great many philosophers, in verbal disputes, and vain and puerile questions: but it only confirms what I have myself remarked.

§ 27. Here we may observe the slow advances which the mind makes towards the knowledge of truth. Locke furnishes us with an example of it that to me appears very curious.

Though the necessity of signs for the ideas of numbers has not escaped him, yet he does not speak of it as a person well assured of what he advances.

“ For without such names or marks, he says, we
“ can hardly make use of numbers in reckoning,
“ especially where the combination is made up of
“ any great multitude of units *.”

He was sensible that names were necessary for the archetypes, but he has not hit upon the true reason. “ The connexion, he says, between the
“ loose parts of those complex ideas, being made
“ by the mind, this union, which has no particular
“ foundation in nature, would cease again, were
“ there not something that did, as it were, hold
“ together, and keep the parts from scattering †.”

This reasoning must naturally have hindered him, as it really did, from perceiving the necessity of signs for the notions of substances: for as these notions

* Book 2. c. 16. § 5.

† Book 3. c. 5. § 10.

have a foundation in nature, it followed of course that the combination of their simple ideas must be preserved in the mind without the assistance of words.

A very little thing is sufficient to retard the progress even of the greatest geniuses: it is sufficient, as we have here an instance, that a very small mistake has dropped from them at the very time they were defending the truth. This is what hindered Locke from discovering the necessity of signs in acquiring a habit of the operations of the mind. He supposes that the mind makes mental propositions, in which it joins or separates ideas without the intervention of words*. He even pretends that the best way to arrive at knowledge, would be to consider the ideas in themselves; but he observes that through the prevailing custom of using sounds for ideas, this is very seldom practised†. After what I have said, it is needless for me to lose any time in shewing how inaccurate he is in this respect.

Wolfius observes that it is very difficult for reason to display itself in a man who has not the use of instituted signs. He gives for example the two facts above related‡, which he does not however explain. Besides he was a stranger to the absolute necessity of signs, as also to the manner in which they concur to the progress of the operations of the mind.

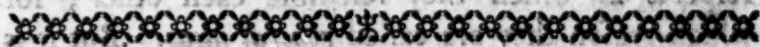
With regard to the followers of Descartes and Mallebranche, they have been as wide, as possible, from making this discovery. How can we suspect the necessity of signs, if we think with Descartes

* Book 4. c. 5. § 3, 4, 5.

† Book 4. c. 6. § 1.

‡ Psychol. ration. § 461.

that the ideas are innate; or with Mallebranche, that we see all things in God?



SECTION V.

Of Abstraction.

§ 1. **W**E have seen that abstract ideas are formed by ceasing to think on the properties by which things are distinguished, in order to think only on the qualities in which they agree. Let us cease to consider that which determines extension to be such, or a whole to be such, and we shall have abstract ideas of extension and of a whole *.

This

* Mr. Locke explains the progress of this kind of ideas in the following manner. "The ideas, he says, which children form of the persons they converse with, are like the persons themselves, only particular. The ideas of the nurse, and the mother, are well framed in their minds; and like pictures of them there, represent only those individuals. The names they first gave to them, are confined to those individuals; and the names of *nurse* and *mamma*, the child uses, determines themselves to those persons. Afterwards when time and a larger acquaintance has made them observe, that there are a great many other things in the world, that in some common agreements of shape, and several other qualities, resemble their father and mother, and those persons they have been used to, they frame an idea, which they find those many particulars to partake in; and to that they give with others, the name *man*, for example. And thus they come to have a general name, and a general idea. Wherein they

This sort of ideas are therefore no more than denominations we give to things considered in those respects in which they resemble each other; for which reason they are called *general ideas*. But it is not sufficient to know their origin; there are still some important considerations to make on the necessity of them, and on the defects with which they are attended.

§ 2. General ideas are, beyond all manner of doubt, absolutely necessary. As men are obliged to speak of things, according as these differ, or agree, there is a necessity for referring them to classes distinguished by signs. By this means we comprize in a single word what could not, without confusion, be introduced into a long discourse. Of this we have a strong instance in the use of the terms *substance*, *mind*, *body*, *animal*. If we want to speak only of things, as we represent to ourselves a subject which supports their properties and modes, we have need only of the word *substance*. If we intend to point out more particularly the kind of properties and modes, we make use of the word *mind* or that of *body*. If by uniting these two ideas, we design to speak of a living whole, which moves of itself and by instinct, we have the word *animal*. In fine according as we join to the latter notion the ideas which distinguish the different species of animals, custom generally supplies us with

“they make nothing new, but only leave out of the complex
 “idea they had of *Peter* and *James*, *Mary* and *Jane*, that
 “which is peculiar to each, and retain only what is com-
 “mon to them all.” Book 3. c 3. § 7.

terms

Sect. 5. HUMAN KNOWLEDGE. 139

terms proper for communicating our thought in a concise manner.

§ 3. But we must observe that it is less in regard to the nature of things, than to our manner of knowing them, that we determine their genus or species, or to speak in a more familiar language, that we distribute them into classes subordinate to each other. If we were clear sighted enough to discover a greater number of properties in the objects, we should soon perceive the difference betwixt those which to us seem the most similar, and of course we should be able to subdivide them into new classes. Though different particles of the same metal, for example, resemble each other in the qualities which we know in them, it does not follow that they have the same resemblance in those which we do not know. If we were capable of making the latter analysis, perhaps we should find as much difference between them, as now we find betwixt metals of different species.

§ 4. What renders general ideas so necessary, is the limited capacity of the human mind. The deity has no need of them; his infinite knowledge comprehends every individual, so that it is no more difficult for him to think of them all at the same time, than to think of one. With regard to us mortals, the capacity of our minds is filled, not only when we think on a single object, but even when we consider it in some particular respect. Hence we are under a necessity, in order to methodize our thoughts, of distributing things into different classes.

§ 5. Notions

§ 5. Notions arising from such an origin, must needs be defective; and in all probability we should run some risk in making use of them, did we not do it with some precaution. Hence most philosophers have fallen into a great mistake in this point, which has been attended with very bad consequences: they have realized all their abstractions, or looked upon them as beings that have a real existence independently of the things themselves*. Now what gave rise, as I apprehend, to so absurd an opinion, is this.

§ 6. Our first ideas are particular; they are particular sensations of light, of colour, &c. or particular operations of the mind. Now all these ideas exhibit a real being, because properly speaking they are only our own being differently modified. For we can perceive nothing within us, but we must consider it as belonging to ourselves,

* At the beginning of the twelfth century the Peripatetics formed two branches, the Nominals and the Realists. The latter maintained that the general notions which the schools call *universal nature, relations, formalities*, and others, are real beings distinct from the things. The former on the contrary were of opinion, that they are bare names, by which we express the different ways of conceiving, and they went upon this principle, that *nature does nothing in vain*. This was maintaining a good thesis, by a very bad reason; for it was agreeing that these relations were possible, and that to give them existence, nothing more was wanting than to find them to be of some utility. And yet this principle was called *the razor of the Nominals*. So warm was the dispute between these two sects, that in Germany they came to blows; and in France Lewis XI. was obliged to prohibit the reading of the books of the Nominals.

as belonging to our being, or as our very being that exists in such or such a manner : that is, feeling, seeing, &c. such are all our ideas in their original.

As the human mind is too limited to reflect at the same time on all the different modifications which may belong to it, there is a necessity for distinguishing them, in order to view them in succession one after the other. The foundation the mind has for this distinction, is the continual change and succession of modifications in its very being, which appears to it as a kind of subject or bottom that remains always the same.

Certain it is that these modifications in this manner distinguished from the being which is the subject of them, have no longer any real existence. And yet it is impossible for the mind to reflect on nothing ; for this would be properly not reflecting at all. How then shall these modifications taken in an abstract manner, or separated from the being to which they appertain, and which belongs to them only as they are included in it, how shall they, I say, become the object of the mind ? By continuing to consider them as beings. Accustomed every time it considers them as belonging to itself, to perceive them in conjunction with its own real being, from which at that time they are not distinct, it continues, as much as possible, to give them this same reality, at the very time that it abstracts them from real existence. It acts in contradiction to itself : on the one hand, it considers the modifications without any regard to its being, and they are no longer a reality : on the other hand, because it cannot consider a non entity, it views them

as something, and continues to attribute to them that very reality which it first perceived them to have, though it no longer belongs to them. In a word, when these abstractions were only particular ideas, they were connected with the idea of being, and this connexion still subsists.

How defective soever this contradiction may be, it is nevertheless necessary. For if the mind is too much limited to embrace its beings and its modifications all at the same time, it must needs distinguish them, by framing abstract ideas; and though the modifications by this means lose all the reality they had, yet it must still suppose them to be something real, otherwise it could never be able to make them the object of its reflexion.

To this necessity it is owing that a great many philosophers never suspected the reality of abstract ideas to be the work of the imagination. They perceived that we were absolutely engaged to consider these ideas as something real, and there they stopped; but as they did not trace out the cause of our perceiving them under this false appearance, they concluded that they were real beings.

They have therefore realized all these notions; but more or less according as the things of which they are partial ideas, seem to have more or less reality. The ideas of modifications have participated of fewer degrees of existence than those of substances, and those of finite substances have had still less than that of the infinite being *.

* Descartes himself reasons after this manner, *med.*

§ 7. These ideas realized after this manner have been most surprizingly fertile. It is to them we owe the happy discovery of *occult qualities, substantial forms, intentional species*: or to speak only of what is common also with the moderns, to them we owe those genus's, those species, those essences and those differences, which are like so many beings that seat themselves in each substance, to determine it to be what it is. When philosophers make use of these words, *being, substance, essence, genus, species*, we are not to imagine that they mean no more than particular combinations of simple ideas, which we receive by sensation and reflexion: they want to penetrate still further, and to see in each of them some specific realities. If we enter even into a greater detail, and muster the names of substances in review, as *body, animal, man, metal, gold, silver, &c.* they all disclose to philosophic eyes, particular beings concealed from the rest of mankind.

What shews that they look upon these words as signs of some reality, is that though a substance has undergone some alteration, still they continue to ask, whether it belongs to the same species, as it belonged to before this change: a question which would be altogether superfluous, if they ranked the notions of substances and of their several species in the different combinations of simple ideas. When they ask *whether ice and snow are water; whether a monstrous fetus is a man; whether God, the mind, the body, or even a vacuum are substances*; it is evident, that the question is not whether these things agree with the simple ideas combined under these words, *water, man, substance*; for it would solve itself.

The

The point is to know whether these things include certain essences, certain realities, which these words, *water, man, substance*, are supposed to signify.

§ 8. This prejudice is the cause that the whole tribe of philosophers have imagined, that we ought to define substances by their nearest difference, as that which is most proper to explain their nature. But they are still to seek for an example of this sort of definitions. These must be always defective from our incapacity of knowing the essences of things; an incapacity never in the least suspected by them, because they are prejudiced in favour of abstract ideas which they realize, and afterwards take for the essence of things.

§ 9. The abuse of realizing abstract ideas becomes still more obvious, when philosophers not satisfied with explaining after their manner the nature of that which is, attempt to explain the nature of that which is not. We have instances of their speaking of creatures merely possible, as of creatures that existed; and of their realizing every thing, even to the very non-entity, from which they sprang. Where were the creatures, some ask, before God created them? The answer is easy; for it is asking where they were before they were; to which, I think, it is sufficient to answer that they were no-where.

The idea of possible creatures is only a realized abstraction, which we have framed by ceasing to think on the existence of things, in order to consider only the other qualities with which we know they are endued. We have been thinking of extension, of figure, of motion and rest in bodies, and we have ceased to think on their existence.

ence. Thus it is we have formed to ourselves the idea of possible bodies : an idea which deprives them of all their reality, because it supposes them in a state of non-existence ; and which nevertheless by a manifest contradiction makes them still keep it, because it represents them to us, as something extended, of a sensible figure, &c.

Philosophers not perceiving this contradiction, have taken this idea only in the last sense. Consequently they have given to that which does not exist, the real properties of that which does : nay some of them imagined they could resolve in an intelligible manner the most intricate questions concerning the creation.

“ § 10. I suspect, says Locke, that this way of speaking of faculties, has misled many into a confused notion of so many distinct agents in us, which had their several provinces and authorities, and did command, obey, and perform several actions, as so many distinct beings, which has been no small occasion of wrangling, obscurity, and uncertainty in questions relating to them *.”

This suspicion is worthy of a sage philosopher, for why should we discuss as very important questions, *whether judgment belongs to the understanding or to the will ; whether they are both equally active or equally free ; whether the will is capable of knowledge, or is only a blind faculty ; whether in fine it commands the understanding, or the latter guides and determines it ?* If by the *understanding* and the *will*, philosophers wanted only to signify the soul considered in regard to particular acts, which it pro-

* Book 2. c. 21. § 6.

duces, or is capable of producing, it is evident that judgment, activity, and liberty, do or do not belong to the understanding, according as speaking of this faculty, we come to consider a greater or lesser number of these acts. It is the same with the will. It is sufficient in this sort of cases to explain the terms, determining by exact analyses the notions we frame of things. But philosophers having been obliged to represent the soul by abstractions, have multiplied its being; so that the understanding and will have undergone the fate of all abstract ideas. Even those who in express terms observe, for instance the Cartesians, that these are not beings distinct from the soul, have entered into all the questions above related. They have therefore realized these abstract notions contrary to their intention, and without perceiving it. Through ignorance of the manner of analyzing them, they were incapable of knowing their defects, and consequently of making use of them with all the necessary precautions.

§ II. This sort of abstractions have thrown an infinite obscurity on all that has been written on liberty; a question on which a great many pens seem to have been employed, only to involve it in greater darkness. The understanding, say some philosophers, is a faculty which receives ideas; and the will is of itself a blind faculty, which is determined only in consequence of the ideas presented unto it by the understanding. It does not depend on the understanding to perceive or not perceive, the ideas and mutual relations of truth or probability. It is not free, it is not even active; for it does not produce

duce in itself the ideas of white and black, but it necessarily sees that the one is not the other. The will acts, it is true: but blind of its own nature, it follows the dictates of the understanding; that is, it is determined in consequence of what is prescribed to it by a necessary cause. It is therefore necessary. Now if man were free, it would be by one or other of these two faculties. Therefore man is not free.

To refute this whole argument, it is sufficient to observe, that these philosophers have framed such phantoms to themselves of the understanding and will, as exist only in their own imagination. If these faculties were such as they represent them to their minds, doubtless there could be no room for liberty. I desire them to enter into themselves, and then I engage, that provided they consent to renounce these abstract realities, and to analyze their thoughts, they will see things in a very different light. It is not true, for instance, that the understanding is neither free nor active; the analyses we have given of it, prove the contrary. But we must acknowledge that this difficulty is very great, if not insolvable, in the hypothesis of innate ideas.

§ 12. I know not whether after all that has been said, we shall be able at length to abandon all these realized abstractions: nay for several reasons I apprehend the contrary. We have already observed * that the names of substances occupy in our minds the place which is taken up by the subjects without us: there they are the chain and support of the simple ideas, as the subjects are

* Sect. 4. p. 114.

the support of the qualities. Hence we are constantly tempted to refer them to this subject, and to imagine to ourselves that they express the very reality of it.

In the second place : I have elsewhere * observed that we are capable of knowing all the simple ideas of which the archetypes are framed. Now since the essence of a thing, according to philosophers, is that which constitutes it what it is, it follows of consequence that we are capable on those occasions of having ideas of essences ; and accordingly we have given them names. For example, the name of *justice* signifies the essence of the just man, the name of *wisdom* the essence of the wise man, &c. This is perhaps one of the reasons which made the schoolmen believe, that to have names which should express the essence of substances, they had only to follow the analogy of language. Hence they framed the words *corporeity*, *animality*, *humanity*, to point out the essence of bodies, animals, and man. These terms being grown familiar to them, it is very difficult to persuade them that they are void of meaning.

In the third place ; there are only two ways of making use of words, viz. after having fixed in one's mind all the simple ideas which they ought to signify, or only after having supposed them to be signs of the very reality of things. The first way is generally embarrassing, because the custom of applying them is not always sufficiently determined. As men see things in a different light, according to

* Sect. 3. p. 104.

the experience they have acquired, it is difficult they should agree in regard to the number and quality of the ideas of a great many names. Besides, even when they happen to agree, it is not always an easy matter to hit on the meaning of a term in its full extent : for this end a vast deal of time, experience, and reflexion is requisite. But it is far more convenient to suppose in the things a reality, of which the words are considered as the actual signs, and to understand by these names, for instance, *man*, *animal*, &c. an entity which determines and distinguishes these things, than to attend to all the simple ideas which may possibly belong to them. This way satisfies at once our impatience and our curiosity. There are few perhaps, even among those who have most endeavoured to divest themselves of their prejudices, who do not feel some inclination to refer all the names of substances to unknown realities. This appears even in cases where it is easy to avoid committing any mistake, because we are very well convinced that the ideas which we realize, are not real beings. I mean to speak of moral beings, such as *glory*, *war*, *renown*, to which we have given the denomination of *being*, only because in our most serious, as well as in our most familiar conversations, we imagine them under this idea.

§ 13. This is certainly one of the most extensive causes of the errors we fall into. It is sufficient to suppose that words correspond to the reality of the things, in order to confound them with those things, and to conclude that they perfectly explain their nature. From thence it comes that the person who

proposes a question, and asks what such or such a body is, imagines, as Locke observes, that he asks something more than a name; and that the person who answers him, *it is iron*, believes likewise that he tells him something more. But there is no hypothesis, how unintelligible soever, which may not be defended by such a jargon. We must not then be surprized at the reputation which different sects have obtained.

§ 14. It is therefore a point of great importance not to realize our abstractions. In order to avoid this inconveniency I see but one way only, which is to know how to explain the origin and formation of our abstract notions. But this is a way which the philosophic tribe have been unacquainted with; and in vain have they endeavoured to supply it with definitions. The source of their ignorance in this respect, is the prejudice under which they have always laboured, that it was necessary to begin with general ideas: for when they have made it a law to themselves not to begin with particular ideas, it is impossible to explain the more abstract ones which from thence derive their origin. I shall give here an example of this.

After having defined, a thing impossible to be *that which implies contradiction*; a thing possible *that which does not imply contradiction*; and being, *that which is capable of existing*: they can give no other definition of existence, except that it is *the completion of possibility*. But I ask whether this definition gives us any idea, and whether it is not as much liable to ridicule as some of Aristotle's.

If a thing possible *is that which does not imply a contradiction*, possibility is the *non implication of contradiction*. Existence is therefore *the completion of the non implication of contradiction*. What a strange jargon! By more accurately observing the natural order of our ideas, they might have seen that the notion of possibility is not formed till after that of existence.

The reason, I fancy, of their adopting this sort of definitions, is because as they are otherwise acquainted with the thing defined, they do not examine into them so very strictly. The mind having already received some rays of light, attributes it to those definitions, and does not perceive that they are unintelligible. This example shews of what importance it is to adhere to my method; that is, always to substitute analyses in the place of definitions. I am even of opinion that we ought to carry our delicacy so far, as to avoid making use of expressions, which are commonly adopted in philosophic schools. This abuse of them is grown so familiar, that it is difficult, what care soever we use, but they must lead the generality of readers into error. Mr. Locke is an example of this. It is true that generally speaking he makes a very just application of those expressions; but it would have been much easier to understand him in a great many places, if he had intirely banished them from his writings. However I judge only by the translation.

These particulars are sufficient to shew the influence of abstract ideas. If the ignorance of their insufficiency, has thrown a great mist on every

part of metaphysics, now this insufficiency is known, it depends on ourselves to apply a remedy to the evil.



SECTION VI.

Of some judgments attributed to the mind without foundation, or the solution of a metaphysical problem.

§ 1. **T**HE operations which we have hitherto attributed to the mind, are such as every man is capable of perceiving within himself. But philosophers in order to account for the phenomena of vision, have supposed that we form certain judgments, of which we have no sort of consciousness. This opinion is so generally received, that it is admitted by Locke, the most circumspect of them all. The manner he explains himself is as follows.

“ We are farther to consider concerning perception, that the ideas we receive by sensation are often in grown people altered by the judgment, without our taking notice of it. When we set before our eyes a round globe of any uniform colour, e. g. gold, alabaster, or jet, it is certain that the idea thereby imprinted in our mind is of a flat circle, variously shadowed, with several degrees of light and brightness coming to our eyes. But we having by use been accustomed to perceive what kind of appearance convex bodies are wont to make in us, what alterations are
“ made

“ made in the reflexions of light by the difference
 “ of the sensible figure of bodies ; the judgment
 “ presently by an habitual custom, alters the ap-
 “ pearances into their causes ; so that from that
 “ which truly is variety of shadow or colour, col-
 “ lecting the figure, it makes it pass for a mark of
 “ figure, and frames to itself the perception of a
 “ convex figure, and an uniform colour ; when the
 “ idea we receive from thence is only a plane vari-
 “ ously coloured ; as is evident in painting. To which
 “ purpose I shall here insert a problem of that very
 “ ingenious and studious promoter of real knowledge,
 “ the learned and worthy Mr. Molineux, which he
 “ was pleased to send me in a letter some months
 “ since ; and it is this : *Suppose a man born blind,*
 “ *and now adult, and taught by his touch to distin-*
 “ *guish between a cube and a sphere of the same metal,*
 “ *and nighly of the same bigness, so as to tell, when*
 “ *he felt one and t’other, which is the cube, which the*
 “ *sphere. Suppose then the cube and sphere placed on*
 “ *a table, and the blind man to be made to see : quære*
 “ *whether by his sight before he touched them, he could*
 “ *now distinguish and tell which is the globe, which*
 “ *the cube ?* To which the acute and judicious
 “ proposer answers, *not. For though he has obtained*
 “ *the experience of how a globe, how a cube affects*
 “ *his touch ; yet he has not yet attained the experience,*
 “ *that what affects his touch so or so, must affect his*
 “ *sight so or so ; or that a protuberant angle in the*
 “ *cube, that pressed his hand unequally, shall appear to*
 “ *his eye as it does on the cube.* I agree with this
 “ thinking gentleman, whom I am proud to call
 “ my friend in his answer to this his problem ; and
 “ am

“ am of opinion, that the blind man, at first sight,
“ would not be able with certainty to say which
“ was the globe, which the cube, whilst he only
“ saw them ; though he could unerringly name
“ them by his touch, and certainly distinguish them
“ by the difference of their figures felt *.”

§ 2. This whole reasoning supposes that the image impressed on the eye at the sight of a globe, is only a flat circle, with different degrees of light, and variously shadowed, which is true. But it supposes likewise, what to me appears to be false, that the impression consequently made on the mind, gives us only the perception of this circle; that if we see the globe of a convex figure, it is because having acquired by the touch the idea of this figure, and knowing what sort of image it produces in us by the sight, we have accustomed ourselves, contrary to the idea we receive from thence, to judge it to be convex; a judgment which, to express myself in the very same terms as Locke uses a little while after, *changes the idea of the sensation, and represents it to us differently from what it is in itself.*

§ 3. Among these suppositions Locke without proof advances, that the idea received by sensation represents nothing more than the image which we know to be imprinted on the eye. For my part, when I look upon a globe, I see something else besides a flat circle: and it is very natural for me to be determined by my own experience. Besides, there are a great many reasons for rejecting the judgments to which this philosopher has recourse. First of all

* Book 2. c. 9. § 8.

he supposes that we know what sort of images are produced within us by convex bodies, and what changes happen in the reflexion of light, according to the difference of the sensible figures of bodies : a knowledge which far the greatest part of mankind have not, though they see these figures as well as philosophers. Secondly, it would be in vain to strive to join those judgments to vision : we should never confound them, as Locke supposes ; but we should see one way and judge another.

I behold a basso relievo, I know beyond all doubt that it is done on a flat surface ; I have touched it : and yet neither this knowledge, nor repeated experience, nor all the judgments I can frame, hinder me from seeing convex figures. Why does this appearance continue ? Why should not a judgment, which has the power of making me see things quite differently from what they are in the idea received from my sensations, why should not it, I say, have the power of making me see them conformable to this idea ? We may argue in the same manner in regard to the appearance of roundness under which we see a distant building which we know and judge to be square, and to a thousand similar examples.

§ 4. Thirdly, an argument which alone would suffice to overturn Locke's opinion, is the impossibility of making us have a consciousness of this sort of judgments. In vain would it be to say, that a great many things seem to pass in the mind, of which we take no manner of notice. From what I have elsewhere said †, it is true that we might indeed

† Sect. 2. cap. 1;

forget these judgments the minute after we had framed them: but if we were to make them the object of our reflexion, our consciousness concerning them would be so strong, that we should never more be able to entertain the least doubt about them.

§ 5. Tracing Mr. Locke's opinion through all its consequences, we should reason about distances, situations, magnitude, and extension, as he has done in regard to figures. Thus we should say: "When we behold a wide field, it is certain that the idea imprinted on our minds at this sight, represents a flat surface, shadowed, and differently coloured, with different degrees of light coming to our eyes. But as by use we are accustomed to distinguish what sort of image is generally produced in our minds by bodies differently situated, differently distant, differently large, and differently extended, and what changes happen in the reflexion of light, according to the difference of distances, situations, magnitude, and extension, we immediately put in the room of the several appearances, the very cause of the images which we see, and this in virtue of a judgment which use has rendered habitual to us; so that joining the act of seeing to a judgment which we confound with it, we frame to ourselves the ideas of different situations, distances, figures, and extensions, though in reality our eyes represent no more to us than a plane shadowed, and differently coloured."

This application of Mr. Locke's reasoning is so much the more just, as the ideas of situation, distance,

tance, figure, and extension, which we receive from the sight of a field, are all to be found in small in the perception of the different parts of a globe. And yet this philosopher has not adopted these consequences. As he requires in his problem that the globe and the cube should be very near of the same size, he sufficiently gives us to understand, that the sight may, without the aid of any judgment, give us different ideas of magnitude. And yet this is a contradiction: for there is no conceiving how we should have ideas of magnitude, without having ideas also of figure.

§ 6. Others have made no difficulty to admit these consequences. The celebrated M. de Voltaire * approves of the opinion of the bishop of Cloyne, who asserted that neither situation, distance, size, nor figure, could be distinguished by a man born blind, who of a sudden had received the use of his sight.

§ 7. I look, says he, from a considerable distance, through a little hole, at a man standing on the top of a house; the distance, and the small number of rays hinder me at first from discerning whether it be a man; the object appears to me very small, I think I see a statue two feet high at the most; presently the object moves, I think it is a man, and from that instant this man appears to me of the ordinary size.

§ 8. I admit, if you will, of this judgment, and of the effect attributed to it; yet it is still far from proving the bishop of Cloyne's thesis. There is here a sudden transition from a first judgment to another

* Elements of Newton's philosophy, c. 6.

of a quite opposite nature. This engages us to view the object with greater attention, in order to find therein the common size of a man. This violent attention probably produces some change in the brain, and thereby in the eye, which makes us see a man about five feet high. This is a particular case, and the judgment we make in consequence is such as we cannot deny ourselves to be conscious of. Why should it not be the same thing on every other occasion, if we always framed, as is supposed, the like judgments?

Suppose a man, who stood only four steps from me, removes to the distance of eight, the image imprinted on my eye will be the smaller by one half. How comes it then that he continues to appear to be very near of the same size? You perceive him at first, it will be answered, of a lesser size by one half; but the connexion which experience has established in your brain, between the idea of a man, and that of the height of five or six feet, obliges you to imagine by a sudden judgment a man of such a height, and in fact to see such a height. Here, I confess, is a thing which I cannot confirm by my own experience. Is it possible for a first perception to be effaced so soon, and to be so suddenly replaced by a judgment, that we cannot observe the transition from the one to the other, though we give our whole attention to it? Besides, suppose this man removes to the distance of sixteen, thirty two, or sixty four paces, and so on in that proportion; why shall he appear to me to diminish gradually, till at last I intirely cease to see him? If the perception of seeing be the effect of a judgment, by which I have

2

connected

connected the idea of a man with that of the height of five or six feet; this man ought either immediately to vanish from my sight, or at what distance soever he removes, he should continue to appear to me of the same height. Why shall he diminish quicker to me than to another person, though we have both the same experience? In fine let them point out the distance at which this judgment ought to begin to lose its force.

§ 9. Those whom I here oppose, are wont to compare the sense of seeing to that of hearing, and conclude from the one the other. The sounds, they say, strike the ear; we hear the tones, and nothing more. The object in like manner strikes the eye; we see the colours, and nothing more. The first time a person was to hear the report of a great gun, he would be incapable of judging whether it was fired at the distance of three miles, or of thirty paces. Nothing but experience could enable him to judge habitually of the distance between himself, and the place from whence this report comes. It is exactly the same thing in regard to the rays of light received from an object; they do not in the least inform us whereabouts this object is.

§ 10. The hearing, of its own nature, is not framed to give us the idea of distance, and even, when assisted by experience, the idea it affords us is of all others the most imperfect. There are some occasions in which almost the same thing may be said of the sight. If I look through a hole at a distant object, without perceiving those intermediate things which part me from it, I have but a very imperfect idea of its distance. Then I call in what
knowledge

knowledge I have acquired by experience to my aid, and I judge this object to be more or less distant, according as to me it appears more or less below its ordinary size. Here then we have a case in which it is necessary to join our judgment to the sense of seeing, as well as of hearing: but take particular notice, that we are conscious of it, and that after, as before, we have only a very imperfect knowledge of the distance.

Suppose in opening the window I perceive a man at the further end of the street: I see that he is at some distance from me, before I have as yet formed any judgment. It is not indeed the rays of light which come from him, that give me the most exact information of his distance; but those emitted from the objects between us. It is natural that the sight of these objects should give me some idea of the distance between me and this man; it is even impossible for me not to have this idea, as often as I perceive them.

§ 11. You are mistaken, some will say to me. The sudden and almost uniform judgments, which at a certain age the mind frames of distances, magnitudes, and situations, make you imagine that you have only to open your eyes to see in the manner you do. But it is not so, you must have the assistance of the other senses. If you had none but that of seeing, you would have no way at all of acquiring the knowledge of extension.

§ 12. What is it then I should perceive? a mathematical point. No surely: I should undoubtedly perceive light and colours. But do not light and colours necessarily represent different distances,

different magnitudes, and different situations? I look before me, above, below, to the right, to the left; I see a light diffused in every sense, and several colours that are not certainly concentered in a point: I want no more. There I find, independently of all judgment, without the aid of the other senses, the idea of extension, with all its dimensions.

May I be permitted to make a supposition, which to some perhaps will appear whimsical; that of an animated eye. According to the bishop of Cloyne's opinion, this eye would see light and colours; but would perceive neither extension, magnitude, distance, situation, nor figure. It would therefore accustom itself to judge that all nature is only a mathematical point. Let it be united to a human body, after its soul has long contracted the habit of framing this judgment: doubtless some will imagine that this soul has no more to do than to make use of the senses it has just acquired, in order to form ideas of distance, magnitude, situation, and figure. Not so indeed: the habitual, sudden, and uniform judgments which at all times it has formed, shall change the ideas of these new sensations, in such a manner that it will touch bodies, and positively affirm that they have neither extension, situation, magnitude, nor figure.

§ 13. It would be curious to trace the laws which the author of nature follows, when he enriches us with the different sensations of sight: sensations which not only advertise us better than any others, of the relation of things to our wants, as well as of the preservation of our being, but which also

display

display to us in a more striking manner, the order, beauty, and grandeur of the universe. How important soever this research may be, I leave it to others. It suffices me that those who are willing to open their eyes, agree that they perceive light, colours, extension, figures, &c. I ascend no higher, because there it is I begin to find demonstrative knowledge.

§ 14. Let us, in our turn, examine what would happen to a man born blind, upon acquiring the use of his sight.

This man has framed to himself ideas of extension, magnitude, &c. by reflecting on the different sensations he feels at the touch of bodies. He takes a stick, whose parts he feels have all the same determination, and from thence he draws the idea of a direct line. He touches another whose parts have different determinations, inasmuch, that if they were continued, they would end in different points; and from thence he derives the idea of a curve line. After this he passes forward to the ideas of an angle, a cube, a globe, and of all sorts of figures. Such is the origin of the ideas he has in regard to extension. But we must not imagine that the very moment he opens his eyes, he immediately enjoys that glorious spectacle, which in the various parts of nature arises from the admirable mixture of light and colours. It is a treasure inclosed in the new sensations; but it is reflexion alone that can discover it to him, and grant him the real enjoyment of it. When we ourselves fix our eyes on a very complex picture, and see it all entire, we do not as yet form any determinate idea of it. To view it in a proper manner,

Sect. 6. HUMAN KNOWLEDGE. 163

ner, we are obliged to consider all its parts, one after the other. What a picture must this whole frame of nature be to a person upon his first opening his eyes to the light!

I pass on to that instant in which this man is capable of reflecting on what has struck his sight. Undoubtedly the whole does not appear to him like a point. He perceives therefore an extension in length, breadth, and depth. Let him analyze this extension, and he will frame to himself ideas of a surface, of lines, of a point, and all sorts of figures: ideas which shall be like unto such as he acquired by the touch, for through whatever sensation we arrive at the knowledge of extension, it cannot be represented two different ways. Let me see, or let me touch a circle and a rule, the idea of the one can represent only a curve line, and that of the other a right line. This man therefore who was born blind, will by his sight distinguish the globe from the cube, because he will discover the same ideas as he had framed to himself by the touch.

And yet he might be induced to suspend his judgment, by proposing to him the following difficulty. This body, we might say to him, appears to your eye a globe; this other a cube; but what grounds have you to be sure that the first is the same which by the touch has given you the idea of a globe; and the second the same that gave you the idea of a cube? Who told you that these bodies, when touched, ought to have the same figure as when seen? How do you know whether that which to your eye appears a globe, will not turn out a cube upon touching it with your hand? Who can even

answer that there is something similar therein to those bodies which by your touch you would know to be a cube and a globe? the difficulty would be extremely embarrassing, and I know nothing but experience that could furnish him with an answer: but this is neither Mr. Locke's nor the bishop of Cloyne's thesis.

§ 15. I confess there remains one, and that no small difficulty to solve: it is an experiment which in every respect seems contrary to the opinion I have been now establishing. I shall give it here as related by M. de Voltaire, for it would lose its beauty in being told by any body else.

“ In 1729. Mr. Cheselden, a very eminent surgeon,
 “ having fancied that he could give sight to a man
 “ born blind, by couching the cataracts, which he sup-
 “ posed to have been formed in his eyes, almost at the
 “ very moment of his birth, proposed the operation.
 “ The blind man with difficulty consented; for he
 “ could not well conceive how the sense of seeing
 “ should make any great addition to his pleasures.
 “ Were it not for the desire instilled into him of
 “ learning to read and write, he would not have
 “ wished to see.—Be that as it may, the operation
 “ was performed, and succeeded. His experience
 “ confirmed all that Locke and * Dr. Barklay had
 “ so well foreseen. He could not for a long time
 “ distinguish either magnitude, distance, situati-
 “ on, or figure. A thing an inch long, put before
 “ his eyes, so as to hide a house from him, appear-
 “ ed to him as big as the house. Whatever he be-
 “ held seemed to him at first to be upon his eyes,

* Bishop of Cloyne.

“ and

Sect. 6. HUMAN KNOWLEDGE. 165

“ and to touch them, just as the objects in feeling
 “ touch the skin. He could not distinguish what
 “ he had judged to be round by the aid of his hands,
 “ from what he had judged angular; nor discern by
 “ his sight, whether that which his hands had felt
 “ to be above or below, was indeed above or below.
 “ So far was he from knowing any thing of mag-
 “ nitude, that after having at length conceived by his
 “ sight that his house was larger than his chamber,
 “ he could not conceive how the sight should com-
 “ municate this idea. It was not till after two
 “ months experience that he could perceive that
 “ pictures represented solid bodies: and when after
 “ this long groping with a new sense about him, he
 “ had found that bodies, and not surfaces only,
 “ were represented on pictures; he was surprised
 “ not to feel with his hands those solid bodies whose
 “ representations he began to perceive. He asked
 “ which was the sense that deceived him, that of
 “ feeling, or that of seeing*.”

§ 16. A few reflexions on what passes in the eye at the presence of light, will be sufficient to explain this experiment.

Though we are as yet far from being perfectly acquainted with the whole mechanism of the eye, yet we know that the *tunica cornea* is more or less convex; that in proportion as objects reflect a greater or lesser quantity of light, the *pupil* is contracted or enlarged, to give passage to fewer, or to receive a greater number of rays; the reservoir of the aqueous humour is suspected to assume successively dif-

* Chapter already quoted.

ferent forms. Certain it is that the chryſtalline humour advances or falls back, to the end that the rays of light may exactly unite upon the *retina**; that the delicate fibres of the *retina* are shaken in a ſurpriſing manner; that this concuſſion is communicated in the brain to the other minuter parts, whoſe ſpring and texture muſt be ſtill more ſurpriſing. In fine, the muſcles, whoſe office it is to direct the eye towards the objects we want to fix upon, compreſs the whole ball, and thereby change more or leſs the form of it.

Not only the eye, and its ſeveral parts, muſt adminiſter to all theſe movements, to theſe forms, and to a thouſand changes which we know nothing of, with a quickneſs ſuperior to conception; but it is moreover requiſite that all theſe revolutions be performed in perfect harmony, to the end that the whole may concur to produce the ſame effect. If, for example, the *cornea* had too great or too little a convexity, in reſpect to the ſite and form of the other parts of the eye, the objects would all appear to us confuſed, and inverted, ſo that we ſhould not diſtinguiſh *whether what our hands felt to be above or below, was really above or below*. Of this we may be convinced, by making uſe of a glaſs, whoſe form does not exactly agree with that of the eye.

If, to receive the impreſſion of light, the parts of the eye are inceſſantly modified with ſo great a variety,

* Or upon the *Choroides*; for we do not exactly know whether it is by the fibres of the *retina*, or by thoſe of the *Choroides*, that the impreſſion of light is transmitted to the ſoul.

Sect. 6. HUMAN KNOWLEDGE. 167

and with such surprising vivacity, it is because the springs have been rendered more pliant and easy by long exercise. But this was not the case of the young man, whose cataracts were couched. His eyes having grown for the space of fourteen years, without ever making any use of them, resisted the impression of objects. The *cornea* had either too great, or too small a convexity in respect to the situation of the other parts. The chrystalline humour being grown immoveable, constantly united the rays either on this side of, or beyond the *retina*; or if it changed situation, it was never to place itself on that spot where it ought to be. To set those springs agoing, which had grown stiff by time, a practice of many days was requisite. This is the reason why this young man groped and fumbled for two months. If he owed any thing to the assistance of the touch, it is that the endeavours he used in order to see in the objects the ideas he had framed of them by contact, afforded him an opportunity of acquiring a greater habit of the sense of seeing. Supposing he had discontinued to make use of his hands whenever he opened his eyes to the light, there is no doubt but he would have acquired the same ideas by his sight, though indeed more slowly.

Those who observed this man, at the moment when the cataracts were couched, were in hopes of seeing the confirmation of an opinion, in favour of which they were prejudiced. When they came to know that he perceived the objects in so imperfect a manner, they did not suspect that any other reasons could be given than those which Mr. Locke and the bishop of

Cloyne had imagined. It was therefore an absolute decision in respect to them, that the eye, without the assistance of the other senses, would be very unfit to furnish us with ideas of extension, figure, situation, &c.

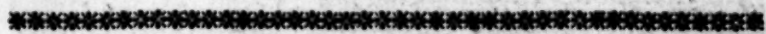
What gave rise to this opinion, which doubtless must have appeared extraordinary to many readers, is on the one hand the itch we have of accounting for every thing, and on the other the insufficiency of the rules of optics: in vain do they pretend to measure the angles which the rays of light form at the bottom of the eye; we do not find that they are in proportion to the manner in which we see the objects. But I did not think that this could be any authority for my having recourse to judgments of which no body can have a consciousness. I apprehend, that in a work wherein I propose to myself to explain the materials of our knowledge, I ought to look upon it as a law, not to advance any thing but what is incontestable, and what every man may, with the least reflexion, perceive within himself.

The END of the FIRST PART,

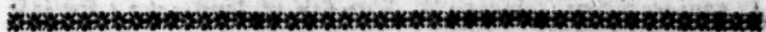
A N



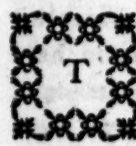
A N
E S S A Y
CONCERNING THE
O R I G I N
O F
H U M A N K N O W L E D G E.



P A R T II.
Of language and method.



S E C T I O N I.
Of the origin and progress of language.

 HE habit of intellectual operations in our first parents was not the effect of experience; for immediately after their creation they were rendered capable, by the extraordinary assistance of the Deity, of reflecting and of communicating their thoughts to each other. But suppose that some time after the deluge two children, one male, and the other female, wandered about in the deserts, before they understood the use of any sign. I am authorized to make this supposition

tion by the fact above related. And who knows but some nation or other owes its original to an event of this kind? Let me then be permitted to make the supposition, and the question * will be to know, in what manner this nation first invented language.

C H A P.

* “ In judging only from the nature of things, (says Dr. Warburton, *Divine Legation*, Vol. II. p. 81.) “ and without the “ surer aid of revelation, one should be apt to embrace the “ opinion of Diodorus Siculus (lib. ii.) and Vitruvius (lib. ii. “ cap. 1.) that the first men lived for some time in woods and “ caves, after the manner of beasts, uttering only confused and “ indistinct sounds, till, associating for mutual assistance, they “ came, by degrees, to use such as were articulate, for the arbitrary signs or marks, mutually agreed on, of those ideas “ in the mind of the speaker, which he wanted to communicate to others. Hence the diversity of languages; for it is “ agreed on all hands that speech is not innate.

“ This is so natural an account of the original of language, “ and so unquestioned in antiquity, that Gregory Nyssen (*ad- “ ver. Eunomium*, lib. xiii.) a father of the church, and Richard “ Simon (*Hist. Crit. du vieux test.* lib. i. cap. 14. and 15. lib. “ iii. cap. 21.) a priest of the oratory, have both endeavour- “ ed to support it: and yet, methinks, they should have “ known better; nothing being more evident from scripture, “ than that language had a different original. God, we there “ find, taught the first man religion; and can we think he “ would not, at the same time, teach him language? (And indeed the knowledge of religion supposed a great many ideas, and a constant habit of the operations of the mind, which could never happen but by the assistance of signs, as I have fully proved in the first part of this work) “ though, continues “ Dr. Warburton a little lower, it appears that God taught “ man language, yet we cannot reasonably suppose it any “ other

Sect. I. HUMAN KNOWLEDGE. 171

“ other than what served his present occasions, he being now
“ of himself able to improve and enlarge it, as his future necessities should require: consequently the first language must
“ needs be very poor and narrow.”

This whole observation appears to me very judicious. My motive for supposing two children under a necessity of inventing even the first signs of language, is because I did not think it sufficient for a philosopher to say a thing was effected by extraordinary means, but judged it to be also incumbent upon him to explain how it could have happened according to the ordinary course of nature.

C H A P. I.

The mode of speaking by action, and that of articulate sounds, considered in their original.

§ I. **S**O long as the abovementioned children lived asunder, the operations of their minds were confined to perception and consciousness, which never cease to act whilst we are awake; to attention which must have taken place whenever any perceptions affected them in a particular manner; to reminiscence, which was when they recollected some circumstances that had struck them, before they had lost the connexions formed by those circumstances; and to a very limited exercise of the imagination. For example, the perception of a particular want, was connected with that of the object which had contributed to relieve it. But as this sort of connexions were formed by chance, without deriving any strength from reflexion, their duration was but short. One day the sensation of hunger put these children

children in mind of a tree loaded with fruit, which they had seen the day before : soon after this tree was forgot, and the same sensation revived the idea of another object. Thus the habit of the imagination was not in their power ; it was no more than the effect of the circumstances in which they were placed *.

§ 2. When they came to live together, they had occasion to enlarge and improve those first operations ; because their mutual converse made them connect with the cries of each passion, the perceptions which they naturally signified. They generally accompanied them with some motion, gesture or action, whose expression was yet of a more sensible nature. For example, he who suffered, by being deprived of an object which his wants had rendered necessary to him, did not confine himself to cries or sounds only ; he used some endeavours to obtain it, he moved his head, his arms, and every part of his body. The other struck with this sight, fixed his eye on the same object, and perceiving some inward emotions which he was not yet able to account for, he suffered in seeing his companion suffer. From that very instant he felt himself inclined to relieve him, and he followed this impression to the utmost of his power. Thus by instinct alone they asked and gave each other assistance. I say *by instinct alone* ; for as yet there was no room for reflexion. One of them did not say to himself, *I must make such particular*

* What I have here advanced concerning the intellectual operations of these children, cannot be called into question, after what has been proved in the first part of this essay. Sect. 2, c. 1, 2, 3, 4, 5. and sect. 4.

motions to render him sensible of my want, and to induce him to relieve me: nor the other, I see by his motions that he wants such a thing, and I will let him have it: but they both acted in consequence of the want which pressed them most.

§ 3. And yet the same circumstances could not be frequently repeated, but they must have accustomed themselves at length to connect with the cries of the passions and with the different motions of the body, those perceptions which were expressed in so sensible a manner. The more they grew familiar with those signs, the more they were in a capacity of reviving them at pleasure. Their memory began to acquire some sort of habit, they were able to command their imagination as they pleased, and insensibly they learned to do by reflexion what they had hitherto done merely by instinct *. At first both of them acquired the habit of discerning by those signs the sensations which each other felt at that moment, and afterwards they made use of them in order to let each other know their past sensations. For example, he who saw a place in which he had been frightened, mimicked those cries and movements which were the signs of fear, in order to warn the other not to expose himself to the same danger.

§ 4. The use of those signs insensibly enlarged and improved the operations of the mind, and on the other hand these having acquired such improvement, perfected the signs, and rendered the use of

* This answers the objection I made in the first part of this work, sect. 2. c. 5. p. 58.

them more familiar. Experience shews that these two things assist each other. Before the discovery of algebraical signs, the human mind had acquired a sufficient habit and improvement of its operations to invent those arbitrary marks; but it is only since this invention, that they have been cultivated and improved to a degree sufficient, to bring mathematical learning to its present state of perfection.

§ 5. By these particulars we see in what manner the cries of the passions contributed to enlarge the operations of the mind, by giving occasion naturally to the mode of speaking by action; a language which in its infancy, probably consisted only in contortions and violent agitations, being thus proportioned to the slender capacity of this young couple.

§ 6. And yet when once they had acquired the habit of connecting some ideas with arbitrary signs, the natural cries served them for a pattern, to frame a new language. They articulated new sounds, and by repeating them several times, and accompanying them with some gesture which pointed out such objects as they wanted to be taken notice of, they accustomed themselves to give names to things. The first progress of this language was nevertheless very slow. The organ of speech was so inflexible, that it could not easily articulate any other than a few simple sounds. The obstacles which hindered them from pronouncing others, prevented them even from suspecting that the voice was susceptible of any further variation, beyond the small number of words which they had already devised.

§ 7. Let

§ 7. Let us suppose this young couple to have had a child, who being pressed by wants which he could not without some difficulty make known, put every part of his body into motion. His tongue being extremely pliant, made an extraordinary motion, and pronounced a new expression. As those wants continued to press the child, this occasioned a repetition of the same efforts; again he moved his tongue in the same manner as at first, and articulated the same sound. The parents surprized, having at length guessed his meaning, gave him what he wanted, but tried as they gave it him, to repeat the same word. The difficulty they had to pronounce it, shewed that they were not of themselves capable of inventing it.

For the same reason this new language was not much improved. The child's organ for want of exercise quickly lost all its flexibility. His parents taught him to communicate his thoughts by action; the sensible images of this mode of speaking, being much easier to him than articulate sounds. Chance alone could give rise to some new words; and doubtless it must have been a long time, before their number could be considerably increased by so slow a method. The mode of speaking by action, at that time so natural, was a great obstacle to surmount. How could they leave it for another, whose advantages were not yet foreseen, and whose difficulties were so obvious?

§ 8. In proportion as the language of articulate sounds became more copious, there was more need of seizing early opportunities of improving the organ of speech, and for preserving its first flexibility.
Then

Then it appeared as convenient as the mode of speaking by action : they were both indiscriminately used ; till at length articulate sounds became so easy, that they absolutely prevailed.

§ 9. There was therefore a time when conversation was supported by a language intermixed with words and gestures. “ Use and custom *, as in
“ most other circumstances of life, improving what
“ arose out of necessity into ornament, this practice
“ subsisted long after the necessity had ceased ; especially amongst the eastern people, whose natural
“ temper inclined them to a mode of conversation,
“ which so well exercised their vivacity by *motion* ;
“ and so much gratified it, by a perpetual representation of material images.

“ Of this we have innumerable instances in holy
“ scripture : as where the false prophet pushed with
“ horns of iron, to denote the intire overthrow of
“ the Syrians † ; where Jeremiah, by God’s direction, hides the linen girdle in a hole of the rock
“ near Euphrates ‡ ; where he breaks a potter’s
“ vessel in sight of the people § ; puts on bonds
“ and yokes ||, and casts a book into Euphrates ** ;
“ where Ezekiel, by the same appointment, delineates the siege of Jerusalem on a tile †† ; weighs
“ the hairs of his beard in balances ‡ ; carries out
“ his household-stuff § ; and joins together the two
“ sticks for Judah and Israel ||. By these actions

* Divine Legation, vol. 2. p. 83. † 1 Kings xxii. 11.

‡ Chap. xiii. § Chap. xix. || Chap. xxvii.

** Jer. li. 63. †† Ezek. iv. 1. ‡ Ezek. v. 1.

§ Ezek. xii. || Ezek. xxxvii. 16.

“ the prophets instructed the people in the will of
“ God, and conversed with them in signs.”

Some for want of knowing that the mode of speaking by action was a common and familiar manner of conversing among the Jews, have presumed to treat these actions of the prophets as absurd and fanatic. Dr. Warburton clears them intirely * of this idle charge. “ The absurdity of
“ an action consists in its being extravagant and
“ insignificant ; but use and application made these
“ in question both sober and pertinent : and the
“ fanaticism of an action, in the delighting in unusual actions and foreign modes of speech ; but
“ those in question were idiomatic and familiar.

“ But it is not only in sacred story that we meet
“ with this mode of speaking by action. Profane
“ antiquity is full of such examples . . . The early
“ oracles, particularly, used it, as we learn from
“ an old saying of Heraclitus : *That the king whose
“ oracle is at Delphi, neither speaks, nor keeps silent,
“ but reveals himself by signs* † ; a plain proof that
“ speaking by actions was once the common mode
“ of information.”

§ 10. It seems that this mode of speaking was preserved chiefly to instruct the people in regard to matters in which they were most deeply concerned ; such as government and religion. Because as it acted upon the imagination with greater force, the impression was more durable. Its expression contained even something elevated and noble, which

* Divine Legation, vol. ii. p. 86.

† Οὐτι λόγῳ, ὅτι κρύπτει, ἀλλὰ σημαίνει, *Plut. περὶ τῷ μὴ χεῖρ ἱμμετρα*. p. 962.

the language of articulate sounds, as yet poor and barren, could not come up to. This mode of speaking the ancients called by the name of *dance*; which is the reason of its being said that David danced before the ark.

§ 11. As taste improved, men gave a greater variety, grace, and expression to this *dance*. They not only subjected the motions of the arms, and the attitudes of the body to rules, but they likewise marked out the movements of the feet. By these means dancing was naturally divided into two subordinate arts: one, if I may be permitted an expression conformable to the language of antiquity, was the *dance of gestures*, which they preserved in order to make it concur in the communication of their thoughts; the other was chiefly the *dance of steps*, and was employed in expressing some particular emotions of the mind, but chiefly joy; it was therefore used on occasions of rejoicing, and its principal object was pleasure.

The *dance of steps* arises therefore from that of *gestures*; whose character it retains. Among the Italians, whose action is more lively and more varied, it is pantomimic: on the contrary, in France it is more grave and simple. This, if any advantage, seems to me the cause that the language of this dance is not so copious and expressive. For example, would it be possible for a dancer, who aimed at nothing more than grace in his movements and dignity in his attitudes, would it be possible, I say, for him, when he danced with a partner, to have the same success, as if he danced alone? would not there be room to apprehend that the simplicity
of

of his movement, would be so confined in its expression, as not to furnish him with signs sufficient for the language of a figured dance? if so, the more simple this art becomes, the more its expression is limited.

§ 12. There are different kinds of dance, from the most simple to that which is least so. They are all good, provided they be expressive of something, and they are so much the more perfect, as their expression is more various and diffuse. A dance that expresses grace and dignity, is good; but that which frames a kind of conversation and dialogue, seems better. The least perfect is that which requires nothing but strength and agility, because its object is not sufficiently interesting: and yet it is not to be undervalued, since it frequently causes a very agreeable surprize. The fault of the French is their confining the arts by striving to render them simple. Hence they sometimes deprive themselves of the improvements of other nations, from an attachment to their own mode and taste: and of this we have another example in music.

CHAP. II.

Of the prosody of the earliest Languages.

§ 13. **S**PEECH succeeding the language of action, retained its character. This new method of communicating our thoughts could not be contrived without imitating the first. In order then to supply the place of the violent contorsions

of the body, the voice was raised and depressed by very sensible intervals.

These languages did not succeed each other abruptly: they were a long time intermixed; and it was not till very late that speech prevailed. Now every man may experience in himself, that it is natural for the voice to diversify its inflexions in proportion as the gestures are more varied. There are several other reasons to confirm this conjecture.

In the first place, when men began to utter articulate sounds, the resistance of their organs did not permit them to do it by such soft inflexions as ours.

Secondly, we may observe that there is so great a necessity for inflexions, that we have some difficulty to understand a person, who is subject to a monotony in reading. If we are satisfied with a slight variation of the voice, it is because the mind has been sufficiently enlarged and improved by the great number of ideas which we have acquired, and by the habit we have formed of connecting them with sounds. This is what those men wanted, who first invented the use of speech. Their minds were rude and uncultivated, insomuch that ideas the most common to us were new to them. Therefore to understand one another, they were obliged to conduct their voice by very distinct degrees. We ourselves experience, that the less we are acquainted with a language, the greater stress we are obliged to lay on every syllable, and to make a sensible distinction between them.

Thirdly, at the origin of languages, mankind meeting with too great a difficulty in devising new words, had no other means for a long time of expressing

pressing the emotions of the soul, than the natural cries, to which they gave the character of instituted signs. Now the natural cries necessarily introduce the use of violent inflexions; since different emotions are signified by the same sound varied in different tones. *Ab*, for instance, according to the different manner in which it is pronounced, expresses admiration, pain, pleasure, sadness, joy, fear, dislike, and almost all the passions.

Finally, I might add that the first names of animals probably were made in imitation of their cries: a remark which is equally applicable to those that were given to winds, to rivers, and to every thing that makes a noise. It is evident that this imitation supposes the sounds to have succeeded each other by very distinct intervals.

§ 14. We might improperly give the name of music to this manner of pronouncing, as custom indeed gives it to all pronunciations that are very much accented. Yet I avoid doing it, because I shall have occasion to make use of this word in its proper sense. It is not sufficient for music, that the sounds succeed each other by distinct degrees, they must likewise be sustained, so as to let their harmony be perceived, and the intervals must be such as can be measured. It was impossible that this should generally be the character of those sounds by which the voice was varied at the origin of languages; but on the other hand it could not be very far from agreeing to them. Let two sounds succeed each other with never so small a relation, it will be sufficient slightly to depress or to raise one of the two, in order to find such an interval between them as

harmony requires. Therefore at the origin of languages the manner of pronouncing admitted of inflexions that were so distinct, as a musician might prick it down, making only some small changes; I shall say then that it partook of the nature of music.

§ 15. This prosody was so natural to mankind in the beginning, that to several it has appeared easier to express different ideas by the same word pronounced in different tones, than to multiply the number of words in proportion to that of ideas. This language is still preserved among the Chinese. They have only 328 monosyllables; these they vary on five tones, which is equivalent to 1640 signs. It has been observed that our languages are not more copious. Other people, doubtless of a more fruitful imagination, chose rather to invent new words. Prosody with them began insensibly to recede from music, in proportion as the reasons for its former approximation, ceased to take place. But it was a long time before it became so simple as it is at present. Established customs oftentimes subsist even when the wants which gave rise to them are at an end. If I were to say that the prosody of the Greeks and Romans participated also of music, some would find a difficulty perhaps to guess at the grounds of such a conjecture. And yet the reasons for it seem to me both plain and convincing; I shall give them in the following chapter,

C H A P. III.

Of the prosody of the Greek and Latin tongues; and occasionally of the recitation or declamatory speaking of the ancients.

§ 16. **T**HAT the Greeks and Romans determined their recitation or declamatory speaking by notes and signatures, and accompanied it with the sound of instruments *, is beyond all manner of doubt: it was therefore properly a kind of chant or song. This is an evident consequence to such as have the least knowledge of the principles of music. In the first place they are not ignorant that it is impossible to have any permanent marks of sound, otherways than by measuring it. Secondly, that nothing can be measured in music, without the resonance of sonorous bodies. Thirdly, that this resonance does not produce any other sounds, or intervals, than such as are admitted in vocal music.

It is also unquestionable that this musical recitation was not at all offensive to the ancients. We do not find that they ever complained of its being unnatural, except in particular cases, as we are apt to do ourselves, when we think a comedian overacts

* I produce no authority to prove this assertion, but refer the reader to the third volume of the Critical Reflexions on poetry and painting, where he will likewise find a confirmation of most of the facts here advanced. My author, the Abbè du Bos, is a very competent judge of these matters, his character being sufficiently established in the learned world.

his part. On the contrary, they considered vocal music as essential to poetry. The versification of the very best Lyric poets, says Cicero *, appears like prose, unless it be supported by vocal music. Does not this evidently shew that the pronunciation, which at that time was looked upon as natural in familiar discourse, partook so much of the nature of chant or song, that it was impossible for them to imagine such a medium as our manner of declaiming?

And indeed our only aim in declaiming, is to express our thoughts in a stronger manner, but without too great a deviation from what we look upon as nature. If the pronunciation of the ancients had been like ours, they would therefore have been satisfied as we are with plain declamation. But it must have been very different, since they could not increase its expression without the assistance of harmony.

§ 17. Besides every body knows that in the Greek and Latin tongues, there were accents, which independently of the meaning of a word, or of an intire phrase, determined the voice to fall on certain syllables and to rise on others. How those accents never happened to clash with the expression, there is only one way of accounting. We must absolutely suppose, that according to the pronunciation of the ancients, the inflexions expressive of the thought, were so often and so sensibly varied, that they could not clash with those required by the accents.

* Cic. de orat.

§ 18. But

§ 18. But to those who shall place themselves under the same circumstances as the Greeks and Romans, it will not be at all surprizing that they should have had so tuneful a manner of declaiming. What makes us consider singing as not altogether so natural on the stage, is not because the sounds succeed each other according to the proportions required by harmony; but because even the weakest inflexions seem generally to us sufficient to express our thoughts. People accustomed to conduct their voice by distinct intervals, would find our pronunciation to be a lifeless monotony; whereas a musical recitation that modified these intervals, only so far as is necessary to measure their sounds, would increase the expression, without appearing at all extraordinary to them.

§ 19. For want of being acquainted with the nature of the Latin and Greek pronunciation, several have found a great difficulty to comprehend what the ancients have wrote concerning their public spectacles. I shall give here an example.

“ If tragedy may do without verse, says a commentator of Aristotle’s poetics *, surely it can much better dispense with music. And in truth I do not rightly understand how music could ever be considered as in some measure constituting part of tragedy; for if any thing upon earth appears foreign and even contrary to a tragic action, it is music. This may be said without any offence, I hope, to the writers of musical tragedies, poems as ridiculous as they are modern, and

* Dacier, Aristot. poet. p. 82.

“ which

“ which could never be endured, if we had the least
“ relish for theatrical entertainments, and if we
“ had not been charmed and bewitched by one of
“ the greatest musicians that ever existed. For
“ opera’s, if I may presume to say it, are grotesque
“ poems, which become the more intolerable by
“ being made to pass for regular compositions.
“ Aristotle would therefore have obliged us greatly
“ in pointing out the manner in which music might
“ have been judged necessary to tragedy. But in-
“ stead of this he was pleased to say, that its
“ intire force was known; which shews only that
“ every body was convinced of this necessity, and
“ felt the marvellous effects which music produced
“ in poems, though it only occupied the interludes.
“ Often have I endeavoured to comprehend the rea-
“ sons which obliged so ingenious and so nice a
“ people as the Athenians to join music and danc-
“ ing to tragical representations, and after a great
“ many inquiries how it could seem natural and
“ probable to them, that a chorus which represented
“ the spectators of an action, should dance and
“ sing at such extraordinary events, I have found
“ that in this they were directed by their natural
“ bias to superstition. The Greeks were the most
“ superstitious people in the world, and the fondest
“ of dancing and music, a passion which was
“ greatly strengthened by their education.

“ I very much question, says the Abbè du Bos,
“ whether this way of reasoning would excuse the
“ taste of the Athenians, upon a supposition that
“ the music and dancing mentioned by ancient
“ authors, as an entertainment absolutely necessary

“ in

“ in tragic representations, were the same as ours :
 “ but we have already seen, that this music was no
 “ more than plain declaiming, and we shall pre-
 “ sently see that this dancing, was only a studied
 “ and regular gesture.”

Both these writers appear to me to be alike mistaken in their explications. Monsr. Dacier forms an idea of the Greek pronunciation from the French, and of the music of the ancient tragedies from that of the modern opera's : so that it is very natural he should be surprized at the taste of the Athenians. But he is in the wrong to find fault with Aristotle. This philosopher, incapable of foreseeing the changes that were to happen in pronunciation and music, reckoned that he should be understood by posterity, just as he was by his cotemporaries. If to us he appears obscure, it is owing to the habit we have acquired of judging of the customs of antiquity by our own.

The Abbè du Bos's mistake is owing to the same cause. Unable to comprehend how the ancients could have looked upon it as a practice most agreeable to nature, to introduce a music on the stage like that of our opera's, he has taken it into his head to say that it was not music, but only a plain declamation, determined by note and measure.

§ 20. In the first place he seems hereby to give a forced construction to a great many passages of the ancients : this we see especially by the confusion he is under to clear up such as relate to the chorusses. In the second place, if this learned Abbè had been acquainted with the principles of harmony, he would have seen that a plain declamation represented by ar-

bitrary

bitrary marks or by notes and measure is a thing impossible. To destroy the system which he has framed on this occasion, it will suffice to relate the manner in which he attempts to establish it.

“ I have asked, says he, several musicians, whether
“ it would be difficult to invent characters or per-
“ manent signs by which we might represent the
“ declamatory speaking used at our theatres. They
“ answered, that the thing was possible, and even
“ that we might mark it with our gamut, pro-
“ vided we gave the notes no more than half the
“ common intonation. For example, those notes
“ which have a semitone of intonation in music,
“ should have only the fourth part of a tone in de-
“ claiming. Thus we should mark even the smallest
“ elevations of the voice that were sensible, at least
“ to our ears.

“ The French versification does not carry its
“ measure along with it like the Greek and Roman
“ metre. But I have been also told, that we might
“ use those characters or signatures in declaiming,
“ for their value as well as for their intonation,
“ We should give a minum no more than the value
“ of a crotchet, and measure the other notes ac-
“ cording to this proportion.

“ I am not ignorant that we should not find
“ it easy at first to meet with persons capable of
“ currently reading this kind of music, and of pro-
“ perly intoning the notes. But boys at the age of
“ fifteen would be able to learn it in six months,
“ Their organs would become pliant to it, just as
“ they become pliant to the intonation of our
“ common music. Exercise, and habit, the conse-
“ quence

“ quence of exercise, are in regard to the voice what
 “ the bow and the arm are to the violin. How then
 “ can it be imagined that this intonation should be
 “ a difficult matter? You need only accustom your
 “ voice to a regular method of performing what it
 “ does every day in common conversation. Some-
 “ times we are quick, at other times slow in speak-
 “ ing. We use all sorts of tones, and make differ-
 “ rent kinds of progressions, either by raising the
 “ voice, or depressing it by all possible intervals.
 “ A recitation, represented by permanent signs,
 “ would be nothing more than the tones and move-
 “ ments of pronunciation pricked down in notes.
 “ And indeed the difficulty attending such a method
 “ would be nothing like that which we experience
 “ in reading what we never saw before, and at the
 “ same time in singing and accompanying the words
 “ on the harpsichord, without having ever studied
 “ the notes. And yet by practice even women
 “ learn to perform these three operations at the same
 “ time.

“ With regard to the manner of representing the
 “ declamation by signs, whether that already men-
 “ tioned, or any other, it cannot be so difficult to
 “ reduce it to certain rules, and to put the method
 “ into practice, as it was to discover the art of de-
 “ termining by notes the steps and movements of a
 “ ballet danced by eight persons; especially confi-
 “ dering the present variety of steps, and intricate
 “ movements. Nevertheless Feuillée has invented
 “ this art, and from his notes dancers may learn
 “ even their different attitudes.

§ 21. Here is a very striking example of the errors into which a person is liable to fall, and of the vague incoherent reasonings he must needs make, who undertakes to speak of an art without being acquainted with its principles. This passage might justly be criticised from one end to the other. I have given it at full length, with a view that by the mistakes of a writer so worthy of respect as the Abbè du Bos, we may see the danger we run in being deceived in our conjectures, whenever we speak without accurate ideas.

Whosoever is acquainted with the formation of sounds, and with the art by which their intonation becomes natural to us, will never suppose that they may be divided by quarter tones, and that their gamut would soon become as familiar as that which we use in music. The musicians, whose authority is produced by the Abbè du Bos, might be excellent practitioners; but in all probability they were unacquainted with the theory of this art, whose true principles were first discovered by M. Rameau.

§ 22. It is demonstrated in the treatise of the harmonic generation, 1°. that a sound cannot be measured, unless it be continued so as to let its melody be heard. 2°. That the voice cannot tune several sounds successively, making determinate intervals between them, unless it be guided by a fundamental base. 3°. That there is no fundamental base able to give a succession by quarter tones. Now in our way of declaiming, the sounds for the most part are very little continued, but succeed each other by quarter tones, or even by lesser intervals. The project of representing them by permanent marks is therefore impracticable.

§ 23. True

§ 23. True it is that the fundamental succession by a tierce gives the semitone minor which is by a quarter tone below the semitone major. But this takes place only in the changes of the modes, so that it can never give rise to a gamut by quarter tones. Besides this semitone minor is not natural, and the ear is so little accustomed to measure it, that upon the harpsichord it is not distinguished from the semitone major; for the same stop forms them both*. The ancients undoubtedly were acquainted with the difference of these two semitones; and this is what made the Abbè du Bos and others believe, that they had divided their gamut by quarter tones.

§ 24. There is no inference to be drawn from choregraphy, or from the art of determining by permanent signs the steps and improvements of a ballet. Feuillée had only to contrive the signs; because in dancing, every step and movement, at least those which he knew how to mark, are measured. In our way of declaiming, the sounds for the most part cannot be measured: they may be compared to some particular expressions in ballets, which choregraphy cannot represent by its arbitrary marks.

I shall insert in a note the explication of some passages which the Abbè du Bos has borrowed of the ancients, to support his opinion †.

§ 25. The

* See in the treatise entitled the harmonic generation, c. 14. art. 1. by what artifice the voice passes to a semitone minor.

† He produces some passages in which the ancients speak of their ordinary pronunciation, as of a very simple thing, and as having a continuous sound. But he should have taken notice that

§ 25. The same causes which determine the voice to vary by very distinct intervals, necessarily occasion it to make a difference between the times which it

that they spoke of it only by way of comparison to their music: therefore it was not absolutely simple. And indeed when they considered it in itself, they have taken notice of its being subject to rules of prosody, which ours is not. A gascon that knew no pronunciation more simple than his own, would look upon it as a continuous sound, when compared to vocal music. The ancients were in the same case.

Cicero makes Crassus say, that whenever he listens to Lælia, he fancies he heard a recitation of the passages of Plautus and Nævius, because she pronounces smooth and even, without affecting any foreign accent. Now, says the Abbè du Bos, Lælia did not sing in familiar conversation: that is true, but in Plautus and Nævius's time the pronunciation of the Romans already partook of the nature of vocal music, since the declamation of passages out of these poets had been determined by note and measure. Lælia therefore seemed to pronounce smooth and even, only because she did not make use of the new accents which custom had introduced.

Comedians, says Quintilian, do not deviate from nature in their pronunciation, at least so as to make us lose sight of it: but they heighten the usual method of pronouncing, with ornaments tolerated in their art: Judge now whether this be singing, says the Abbè du Bos, I say it is, upon a supposition that the pronunciation which Quintilian calls natural, was regulated by prosody to such a degree, as to be capable of being represented by permanent signs, without any sensible alteration. Now this is fact, especially in regard to the time when this rhetor wrote; for then the accents of the Latin tongue were greatly multiplied.

But the following fact, at first sight, seems more favourable to our Abbè's opinion. At Athens they ordered the publication of the laws to be composed or determined by note, and the

it useth in the articulation of sounds. It was not therefore natural, that a people, whose prosody was in some measure musical, should observe equal stops in each

the person who cried or published them, to be accompanied by an instrument. Now is it at all likely that the Athenians should cause their laws to be set to music? I answer, that they would never have thought of establishing such a custom, had their pronunciation been like ours, because there would be too great a difference between it and even the most simple melody: but we must put ourselves in their place. Their language was more loaded with rules of prosody than that of the Romans; so that in a recitation not much heightened by music, they might measure the inflexions of the voice, without seeming to deviate from the common pronunciation.

It seems therefore evident, concludes the Abbé du Bos, that the recitation of the dramatic pieces in the ancient theatres, had neither any transitions, nor strained cadences, nor continued quavers, nor the other characters of our vocal music.

I am much mistaken, or this writer had not a very clear idea of what constitutes vocal music. He seems to judge of it only from that of our operas. Having mentioned that Quintilian complained of some Barristers for pleading in the same manner as they recited on the stage, is it to be imagined, adds he, that those orators sang as we sing at our operas? I answer, that the succession of the tones which constitute a song may still be much more simple than that of our operas; nor is it at all necessary they should have the same transitions, the same strained cadences, and continued quavers.

But we find in the ancients a multitude of passages, which shew that their pronunciation was not a continuous sound. " Such is, says Cicero in his treatise *de oratore*, the marvellous " power of the voice, which out of three tones, acute, grave, " and middle, forms all the variety, sweetness, and harmony " of song: for it is remarkable that the pronunciation in- " cludes a kind of song, not indeed regulated by the laws

each syllable: this method of pronouncing would not have sufficiently imitated the mode of speaking by action. Some sounds therefore at the origin of languages

“ of music, or such as that used by the Phrygian and Carian
 “ orators in their perorations, but a song of a less perceptible
 “ kind, such as that meant by Demosthenes and Æschines,
 “ when they reproached each other with the inflexions of their
 “ voice, and when Demosthenes, to carry the irony still fur-
 “ ther, confessed that his adversary had spoke in a soft, clear,
 “ and convincing tone.”

Quintilian observes, that this reproach of Demosthenes and Æschines, should not make us condemn those inflexions of voice, since it informs us that they both made use of them.

“ The most eminent actors, says the Abbè du Bos†, would not
 “ speak a word in the morning, before they had, if so I may
 “ express myself, methodically exercised their voice, by emit-
 “ ting it gradually, and making, as it were, an insensible ele-
 “ vation, in order not to hurt the vocal organ by any
 “ sudden straining or kind of violence. They even took
 “ care to lye down during this exercise. When the play was
 “ over they sat themselves down, and entered upon another
 “ kind of exercise of their organ, running through the se-
 “ veral tones they had used during the time of performing,
 “ from the highest down to the lowest, with which they con-
 “ cluded.” If the recitation had not been a melody that ad-
 mitted of all the tones, would the comedians have used the
 precaution of exercising every day their voice on the whole se-
 ries of tones which they were capable of framing?

Infine, “ the writings of the ancients, as the Abbè du Bos
 “ himself says*, abound with facts which prove, that their at-
 “ tention to every thing proper for strengthening, or even for
 “ sweetning the voice, was carried to a degree of superstition.
 “ We may see, in the third chapter of the eleventh book of

† Vol. III. p. 198.

* Vol. III. p. 200.

“ Quintilian,

languages succeeded each other with great velocity, and others very slowly. From thence arises what grammarians call *quantity*, or the sensible difference betwixt long and short syllables. Quantity, and pronouncing by distinct intervals, have kept pace together, and altered very nearly in the same proportion. The prosody of the Romans bordered upon vocal music; hence their words were composed of very unequal syllables: in French the quantity has been no farther preserved, than as the weak inflexions of the voice have rendered it necessary.

§ 26. As the inflexions by sensible intervals introduced the use of musical declamation, so the distinct inequality of syllables added a difference of time and measure to it. The declamatory speaking of the ancients contained therefore those two things, which characterise vocal melody, I mean modulation and movement.

Movement is the soul of music: hence we see that the ancients considered it as absolutely necessary to their recitation. There was a person appointed at their theatres to determine it by stamping with his feet; so that the ancient comedians were as much tied down to measure as musicians and dancers in our times. It is beyond all doubt that such a reci-

“ Quintilian, that in every kind of eloquence, the ancients had
 “ made deep reflexions on the nature of the human voice, and
 “ especially on the several methods proper for strengthening it
 “ by exercise. Now the art of learning to strengthen and ma-
 “ nage the voice was become a particular profession. Is it then
 “ at all likely that when they used such excessive care and re-
 “ flexion about their declamatory speaking, it could be so sim-
 “ ple as ours?”

tation would deviate too widely from our manner of pronouncing, ever to seem natural to us. Far from requiring that an actor should follow a particular movement, we forbid him to make us sensible of the measure of our verse; nay we insist on his breaking it so, as he shall seem to express himself in prose. Upon the whole it appears, that the pronunciation of the ancients, in familiar conversation, bordered so near upon vocal music, that their declamation may be said to have been musical in the strict sense of the word.

§ 27. Every day we observe, at our theatrical entertainments, that the singers have a great deal of difficulty to make us understand the words. Doubtless a question will arise, whether the declamatory speaking of the ancients was subject to the like inconveniency? I answer in the negative, and my reason for so thinking is drawn from the nature of their prosody.

As the French language has but very little quantity, we are satisfied with the musician, provided he does not lengthen a short syllable, or shorten a long one. Observing this relation, he may in other respects dwell upon them as much, or as little as he pleases; for instance, he may make a stop of one, two, or three measures on the same syllable. The want of rules of prosody gives him likewise as much liberty; for he has it in his power to depress or to raise the voice on the same sound; being directed intirely by his own taste. From all this some confusion must naturally arise in words set to music.

At Rome, the musician who composed the recitation of the dramatic performances, was obliged to conform

conform strictly to prosody. He was not at liberty to lengthen a short syllable beyond one time, nor a long one beyond two; for even the common people would have hissed him. The prosody oftentimes determined whether he should pass to an acuter or to a graver sound; so that here he was tied down. In a word it was his duty to adapt the movement of the music to the measure of the verse, as much as to the sentiment which it expressed. Thus it is that their declamation, by conforming to a prosody whose rules were more fixed than ours, contributed, notwithstanding the music, to make them clearly understand the words.

§ 28. We must not form an idea of the declamation of the ancients from the French recitatives; it was not near so musical. The reason of these recitatives being so heightened with music is, because if they had been never so simple, still we should not think them natural. On the one hand we were fond of theatrical song, and on the other we were sensible it could not be brought near enough to our ordinary pronunciation; we chose therefore to heighten it with music, in order to indemnify us by its artificial charms, not indeed for the loss of any natural beauty, but of a habit which we took for such. The Italians have a recitative less musical than ours. As they are accustomed to use more action in their discourse than we, and their pronunciation falls as naturally into a frequent change of tone, as ours seems to avoid it, a plain simple music seemed natural enough to them. This is the reason why they give it the preference in such pieces as require to be declaimed. The French recitative would lose in re-

gard to us, were it rendered more simple, because it would have fewer beauties, without any appearance of nature : and the Italian recitative would lose greatly in respect to them, if it were less simple ; because no artificial ornament could ever indemnify them for the certain loss of natural beauty, or at least of what appeared such to them. We may conclude that both the Italians and French ought to adhere to their respective manner, and that they are in the wrong to criticize each other.

§ 29. In the prosody of the ancients I find likewise the reason of a fact, which no one, at least as I know of, has hitherto explained. The question is, in what manner the Roman orators, who harangued in the public forum, could be heard by the whole people ?

Vocal sounds are easily conveyed to the extremities of a place, even of a very large extent : the only difficulty is to hinder those sounds from being confounded. But this difficulty must diminish in proportion as the syllables are more sensibly distinguished from each other by the prosody of a language. In Latin, they differed by the quality of the sound ; by the accent, which, independently of the sense, required the voice to be raised or depressed ; and by the quantity : the French tongue wants accents, and has scarce any such thing as quantity ; besides a great many of their syllables are mute. A Roman might therefore make himself perfectly heard, where a Frenchman could not be heard without difficulty, or perhaps not at all.

C H A P. IV.

Of the progress which the art of gesture made among the ancients.

§ 30. **W**HAT progress the art of gesture made among the ancients, and principally among the Romans, every body that has the least tincture of learning must have heard. The Abbè du Bos has collected the most curious passages on this subject, from the several authors of antiquity. But the reason of this progress no one yet has given. Hence it is that the public spectacles of the ancients appear so incomprehensibly surprizing, and that we sometimes find it difficult to forbear turning them into ridicule; such is our prejudice against every thing that greatly differs from our own customs. The Abbè du Bos having undertaken to defend those entertainments, particularly remarks the immense expences of the Greeks and Romans in the representation of their dramatic pieces, and the great progress they made in poetry, eloquence, painting, sculpture, and architecture. From thence he concludes, that the presumption ought to be in their favour, in regard to those arts of which there are no monuments left; and if we would believe him, we should bestow the same encomiums on the representations of their dramatic performances, as we do on their buildings and writings. My opinion is, that to relish such representations they must have been prepared by far different customs from those of our age and nation: that in consequence of those customs the public spectacles

tacles of the ancients deserved to be commended, and possibly were even superior to ours. This is what I shall endeavour to explain in this and the following chapter.

§ 31. If it be natural, as I have observed, for the voice to vary its inflexions in proportion to the greater variety of gestures, it is for the same reason natural for people who speak a language, the pronunciation of which borders very near upon music, to have a more varied gesture: these two things ought to go together. And indeed if in the prosody of the Greeks and Romans we can trace the character of the mode of speaking by action, there is a stronger reason for our perceiving it in those movements with which they animated their discourse. By this we see that their action might be expressive enough to be measured. We shall therefore find no difficulty any longer to comprehend their having laid down rules for it, and invented the art of determining it by notes and measure. In our days this part of declamatory speaking is become as simple as the rest. We take no notice of an actor, any further than as by a moderate variation of gesture, he has the art of expressing the different emotions of his soul; and we think his action unnatural, if it deviates too much from our ordinary gesture. The consequence is, that we can no longer have any fixt principles to regulate the several attitudes and movements used in declaiming, so that the observations that may be made on this subject are limited to particular cases.

§ 32. When gestures were once reduced to an art, and determined by notes, it was found an easy matter to subject them to the movement and measure

sure

sure of declamation; and this was done by the Greeks and Romans. Nay the latter went farther; they divided the recitation and action between two comedians. Extraordinary as this practice may appear, we see how, by means of a measured movement, a player might properly vary his attitudes, so as to make them agree with the recitation of another person, and why they were as much offended with a gesture performed out of measure, as we are with the movements of a dancer, when he does not keep time.

§ 33. The manner in which the Romans first introduced the practice of dividing the recitation and action betwixt two comedians, shews how fond they were of a kind of gesture which to us would appear altogether extravagant. It is said that the poet Livius Andronicus, at the acting of one of his plays, having grown hoarse by the repeated recital of some passages which the people highly relished; thought proper to make a slave recite, while he himself performed the gestures. His action was the more lively, because he exerted his whole force; and having thus met with applause, the custom at length prevailed in monologues. It was only in dialogue that the same comedian continued to act together and recite. Would such movements, as required the exertion of a man's whole strength, be ever applauded upon our stage?

§ 34. The custom of dividing the declamation, naturally led to the discovery of pantomimes: there was only one step more to take, namely, for the actor to render his gesture so expressive, that the recitation should appear useless. This is what happened.

ed. The most ancient writers, who make mention of pantomimes, inform us that the first who appeared in this way of acting made their essay in monologues; those scenes, as we have just now observed, in which the declamation was divided. These comedians made their first appearance under Augustus, and were soon qualified to act whole regular pieces. Their art was the same in regard to our attitude and gesture, as the music of their declamatory speaking is in respect to our recitation. Thus after a series of revolutions, a language, which may be said to be of all others the most ancient, or which differed from the most ancient only as it was better adapted for variety of expression; this language, I say, was treated as a modern invention.

§ 35. The pantomimic art could never have taken its rise in such a nation as ours. From the languid gesture of our conversation, to the lively and expressive movements used with such variety by this sort of comedians, the distance is too great. Among the Romans those movements were part of their language, and especially of that which was spoke on the stage. They had made three collections of gestures, one for tragedy, another for comedy, and a third for those dramatic pieces called *satires*. There it was that Pylades and Bathillus, the first pantomimes that appeared at Rome, learned their art. If they invented any new gestures, these were doubtless analogous to those already known to the public.

§ 36. The rise of pantomimes, a natural consequence of the improvement of the theatrical profession; the gestures taken from the collections made

for tragedies, comedies, and satires; in fine, the great relation between a very expressive gesture, and a sensible varying of the inflexion of the voice, are a farther confirmation of what I have been saying in regard to the declamation of the ancients. Besides, if we consider that the pantomimes could not avail themselves of the expression of the countenance, because they wore masks like the other comedians, we shall be able to judge of the expression of their gestures, and of the harmonious recitation of those pieces from whence those gestures had been borrowed.

§ 37. The emulation betwixt Cicero and Roscius shews us the force and expression of gestures, even before the establishment of pantomimes. This orator having pronounced a period which he had but just composed, the comedian gave the meaning of it by a dumb shew. Cicero afterwards changed the turn of the phrase, in such a manner that the sense was not weakened, and Roscius equally expressed it by new gestures. Now I would fain know whether such gestures as those could ever match with so simple a recitation as ours?

§ 38. The pantomimic art was agreeable to the Romans from its infancy; it passed afterwards into provinces the most distant from the capitol, and lasted as long as the empire. The people wept at these representations, as at those of the other comedians: they had even the advantage of affording more pleasure than the others, because the imagination is more strongly affected with a language that consists intirely in action. In a word, the passion for this kind of entertainment increased to such a degree,

degree, that so early as the beginning of Tiberius's reign, the senate were obliged to enact a law, forbidding any of their own body to frequent the schools of pantomimes, and the Roman knights to pay any respect to them in the streets.

“ The pantomimic art, says with very just reason the Abbè du Bos *, would have found it far more difficult to succeed among the northern nations of Europe, whose natural action is not so expressive as to be easily understood, when not joined with articulate language. But conversations of every kind are fuller of expression, and far more speaking, if so I may say, to the eye, in Italy, than in our part of the world. When a Roman has a mind to lay aside his studied gravity, and to indulge his natural vivacity, he abounds in gestures that convey almost as much meaning as intire sentences. His action renders several things intelligible, which ours would not even make a person conjecture; and every movement is so remarkably expressive, that it is easily known a second time. A Roman that has a mind to speak to his friend in private, is not satisfied with putting himself out of the reach of being heard, he avoids being seen; with reason apprehending lest his gesture, and the expression of his countenance, should betray a suspicion of what he is going to say.

“ It may be observed, that the same vivacity, and fire of imagination, which is the natural cause of that great variety of lively and expressive gestures, renders their meaning obvious to others. We

* Critical reflect. vol. III. § 16.

“ easily

“ easily understand a language which we speak. To
 “ these remarks let us join one more, though it con-
 “ tains nothing new, namely, that some nations
 “ have a greater sensibility than others, and we
 “ shall not find it difficult to comprehend how co-
 “ medians, by dumb shew, and by imitating the
 “ natural gesture, were capable of moving the pas-
 “ sions of the Greeks and Romans.”

§ 39. The particulars mentioned in this and in the preceding chapter, shew plainly that the recitation of the ancients differed from ours two ways: by the music, which was the cause of the comedians being heard even by those who were farthest from him; and by the gestures, which having a greater variety and force of expression, were understood at the remotest part of the theatre. This was the reason of their building theatres capacious enough for the whole people. And it was owing to the distance of the greatest part of the spectators from the stage that the faces of the actors could not be distinctly seen; which reason also prevented their illuminating the stage so much as we do: nay, it was this that introduced the use of masks. Perhaps this was a custom at first designed to conceal some deformity or imperfection; but afterwards they made use of it to strengthen the voice, and to give to each actor a physiognomy suited to his character. Hence it was that masks came to be extremely useful: the only inconveniency attending them was their concealing the expression of the countenance; but as this could affect only an inconsiderable part of the spectators, it was not worth minding.

Our declamatory speaking is become more simple, so that the actor cannot be heard at so great a distance. Besides, there is less variety and force of gesture. The eye is now the seat of expression; there it is that the able comedian paints the emotions of his soul. For this reason he must be seen at less distance and unmasked. Hence our theatres are much smaller, and better illuminated than those of the ancients. And thus it is that the change of prosody produced a revolution even in things, to which at first sight it does not appear to have any relation.

§ 40. From the difference between our manner of declaiming, and that of the ancients, we may safely conclude, that it is far more difficult now than formerly to excel in this profession. The less we suffer our Comedians to deviate from the natural voice and gesture, the nicer we are in regard to their acting. And indeed I have been assured that there is a greater number of good players in Italy than in France. So it must be; but this should be understood relatively to the taste of the two nations. Baron would have appeared quite heavy and stupid to the Romans; and Roscius to us would have seemed a madman.

§ 41. Declamatory speaking was the favourite passion of the Romans; most of them, says the Abbè du Bos, were become declaimers*. The cause of this is obvious, especially while the republic subsisted. At that time the talent most valued by a citizen was that of eloquence, because it paved the way to the highest honours and preferments.

* Vol. III. p. 92.

Therefore

Therefore they could not avoid cultivating so essential a part of eloquence, as declamatory speaking: this was one of the chief points of their education; and it was so much the easier for young people to learn, because it was determined by rules, as our dance and music. This is one of the chief sources of the passion of the ancients for public spectacles.

The true taste of declamatory speaking was gradually communicated to the people who assisted at the representation of theatrical pieces. They easily accustomed themselves to a kind of recitation, which differed no otherways from their natural manner of speaking, than in conforming to such rules as increased its expression. Hence they had a delicate knowledge of their language, such as at present we find only among persons of birth and education.

§ 42. In consequence of the changes which have happened in prosody, the manner of declaiming is become so simple, that it can no longer be ascertained by rules. It is become almost an affair of instinct or taste. With us it cannot constitute any part of education; nay, it is neglected to such a degree, that we have orators, who do not seem to think it an essential part of their profession; which the ancients would have found it as hard to conceive, as we to believe any of the most surprizing facts of antiquity. Not having made any early improvement in declamatory speaking, we do not resort to the theatres with the same anxious desire as they, nor are we influenced so much by the force of eloquence. The oratorical discourses which they have left us, retain only a part of their expression. We are acquainted neither with their
tone

tone nor gesture, which must have so powerfully actuated the minds of their hearers *. In short, we scarce feel the force of Demosthenes's thunder, or the harmony of Cicero's eloquence.

* "Have not we often seen, says Cicero *de oratore*, very "indifferent orators obtain the whole honour and prize of "eloquence merely by the dignity of their action; while "others very learned in the profession, passed for indifferent, "because they had not the ornaments of pronunciation; in- "fomuch that Demosthenes was in the right for giving the "first, second, and third rank to action. If without this qua- "lification eloquence is nothing, and if action, though unaf- "fected by eloquence, has so much efficacy and force, must we "not agree that it is of the utmost consequence in public "speaking?" The declamatory speaking of the ancients must have had a force greatly superior to ours, for Demosthenes and Cicero, who excelled in the other parts, to have judged that without action eloquence is nothing. Our modern orators would not agree to this opinion; hence the Abbè Colin says, that this sentiment of Demosthenes is exaggerated. If that was the case, how comes Cicero to approve of it without any limitation?

CHAP. V.

Of Music.

Hitherto I have been obliged to suppose that the ancients had a knowledge of music: it is now time to give a history of this art, so far at least as it constitutes a part of language.

§ 43. At the origin of languages their prosody being extremely various and uncertain, every in-
flexion

flexion of the voice was natural to it: consequently they could not avoid falling now and then upon some tones, with which the ear was pleased. These were observed, and frequently repeated: and such is the first idea they had of harmony.

§ 44. The diatonic order, namely that in which the sounds succeed each other by tones and semitones, appears at present so natural, that one would imagine it to have been discovered before the rest: but if we find sounds whose relations are more sensible, we have reason to conclude that their succession was first observed.

Since it is a point demonstrated that the progression by a tierce, a fifth, or an octave immediately depends on the principle from whence harmony is derived, that is on the resonance of sonorous bodies, and that the diatonic order arises from this progression; it necessarily follows that the relations of sounds ought to be far more sensible in the harmonic succession than in the diatonic order. The latter by departing from the principle of harmony, cannot preserve any relations between the sounds, otherwise than as they are transmitted by the succession which produces it. For example, in the diatonic order *re* is connected with *ut*, only because *ut re* is produced by the progression *ut sol*; and the connexion of the two last has its principle in the harmony of sonorous bodies, of which they constitute a part. This is confirmed by the ear; which is more sensible of the relation between the sounds *ut, mi, sol, ut*, than of that between *ut, re, mi, fa*. The harmonic intervals were therefore the first taken notice of.

There are still some progressions here to be observed: for since harmonic sounds are productive of intervals, some more and others less easy to tune, and contain relations more or less sensible, it is not at all natural that they should have been perceived or observed the one as soon as the other. It is therefore highly probable that this intire progression *ut, mi, sol, ut*, was not found out, till after repeated experiments. When this was once known, several others were made on the same pattern, such as *sol, si, re, sol*. With respect to the diatonic order, it was discovered only by degrees, and not till after many fruitless attempts, since the origin of it was not determined till very lately *.

§ 45. The first improvements therefore of this art were the fruit of long experience. But its principles were multiplied to such a degree, that its origin was not known. Mr. Rameau is the first who discovered the source of all harmony in the resonance of sonorous bodies, reducing the theory of this art to a single principle. The Greeks, whose music is so much extolled, were strangers as well as the Romans, to composition in parts. And yet it is very probable that they were acquainted with some few sorts of concords, by observing the meeting of two voices, or by striking together two strings of the same instrument.

§ 46. As the progress of music was so very slow, it was a long time before the ancients had any thoughts of separating it from the words: for it would have seemed void of expression. Besides as

* See Mr. Rameau's harmonic generation.

their prosody had regulated the several tones of the human voice, and alone had furnished the occasion of observing their harmony, it was natural to look upon music only as an art capable of adding more energy or ornament to speech. Hence the prejudice of the ancients against separating the music from the words. Music was in regard to them, very nearly what recitation is to us: by it they learnt to regulate the voice, which before that time was under no sort of direction. To them it must have appeared as ridiculous to separate the music from the words, as it would be to us to separate the sounds of our theatrical recitation from verse.

§ 47. In the mean time this art improved: by degrees it came to equal the expression of the words, till at length it strove to surpass it. One might then perceive that of itself it was susceptible of infinite expression; consequently it could no longer appear ridiculous to divorce it from the words. The expression of the sounds in their tuneful prosody, and that which they had also in their musical recitation, must have been introductory to the impression they were to make, when separate from the human voice. There were two reasons why persons of any abilities, that attempted this kind of music, could not help meeting with success. The first is, that without doubt they pitched upon such pieces, as in the course of reciting, they had been accustomed to render particularly expressive; or at least they imagined some such. The second is the surprize, which this music must needs have produced by its novelty. The greater the surprize, the greater the impression of the music. Thus there

were instances of people of a delicate sensibility, who were suddenly transported by the force of sounds, from joy to sadness, or even to fury. At this sight others who would not have been so easily moved, felt very near the same impression. The effects of this music became the subject of conversation, and the imagination was raised even upon hearing them mentioned. Each wanted to judge for himself; and as mankind are naturally desirous of seeing a confirmation of any extraordinary phenomenon, they they came to hear this music with the most favourable disposition. The consequence was that it often produced the same wonderful effects.

§ 48. Our modern prosody and recitation are far from being introductory to the effects which should arise from our musical compositions. The language of song or vocal music is not so familiar to us, as it was to the ancients; and that of mere instrumental performance has no longer the air of novelty, which alone has so great an effect upon the imagination. Besides at the time of performing, we keep ourselves as calm as we can, without assisting the musician to draw us out of that situation; so that the sensations we feel, arise intirely from the impression of the sound upon our ear. But our perceptions are generally so weak, when the imagination does not react upon the senses, that we ought not to be surprized if our music be not productive of such wonderful effects as that of the ancients. In order to judge of its power, some of our best pieces should be performed before persons of a lively imagination, who had a modulated elocution, founded on a tuneful prosody, and to whom

Sect. I. HUMAN KNOWLEDGE. 213

whom those pieces should recommend themselves at least for their novelty. But this experience would be of no manner of use, were we as much inclined to admire things near us, as those at a distance.

§ 49. Our vocal music is so greatly different from our common recitation or declamatory speaking, that the imagination is not easily imposed upon by our musical tragedies. On the other hand, the Greeks being a livelier people than we, had a more exquisite sensibility. In fine, the ancient musicians embraced the most favourable opportunities to move the passions; for instance, Alexander was seated at table, and as M. Burette observes *, in all probability was over-heated with wine, when at the sound of warlike music he flew to arms. I do not at all question but we have soldiers, on whom the sound of drums and trumpets would have the like effect. Let us not therefore judge of the music of the ancients by the effects attributed to it; but by the instruments they used, and we shall have reason to presume that the superiority is on our side.

§ 50. It is observable that the instrumental music of the Greeks was introduced by preparatory steps, like those to which the Romans were indebted for their pantomimes; and that both these arts, at their first appearance, produced the same surprize in both nations, and the same wonderful effects. This analogy seems to me a matter of great curiosity, and serves to confirm my conjectures.

§ 51. I just now observed, and indeed every writer on this subject has made the same observa-

* History of the academy of belles lettres, tome 5.

tion, that the Greeks were a people, who greatly surpassed us in sprightliness of fancy. But I question whether the true reason of this difference be known; at least I think they are mistaken who attribute it intirely to the climate. Suppose the climate of Greece had continued always the same, still that sprightliness of fancy must have gradually declined. We shall presently see that this is a natural effect of the changes incident to language.

I have elsewhere taken notice * that persons not as yet accustomed to instituted signs, have the liveliest imagination: consequently as the mode of speaking by action or gesture is the immediate work of the imagination, it ought to have more energy and force. And indeed to those who are used to it, a single gesture is oftentimes equivalent to a whole sentence. For the same reason the languages formed after this pattern, must needs be extremely expressive; and the energy of the others must diminish, in proportion as they differ from this pattern. Now what we have already said concerning prosody, shews that the Greek tongue, above all others, felt the influence of the mode of speaking by action; and what we shall presently observe in regard to transpositions, will prove that this was not the only effect of that influence. This language was therefore extremely well adapted for exercising the fancy. On the contrary such is the simplicity of the construction and prosody of the French tongue, that it hardly requires any thing more than memory. In speaking of things, we are satisfied with recollecting

* First part, p. 129. § 21.

their signs, but we seldom revive their ideas. Thus the fancy being seldom raised, becomes more difficult to enliven: and therefore the Greeks greatly surpassed us in sprightliness of fancy.

§ 52. Prejudices in favour of inveterate customs have in all ages been an obstacle to the progress of arts; and music especially has felt the bad effects of it. Timotheus was banished from Sparta by a decree of the Ephori, six hundred years before the birth of Christ, for having, in contempt of the ancient music, added three chords to the lyre; that is, for having endeavoured to render it more various and extensive. Such were the prejudices of those days: we have some ourselves of the like nature; and posterity will have their prejudices also, without thinking perhaps that these too will appear ridiculous to succeeding ages. We look upon Lulli as a plain and natural musician; and yet he passed for a fantastical composer in his life-time. He was accused of spoiling the art of dancing with the airs which he composed for ballets, and which were said to be fit only for buffoons. "It is now a hundred and twenty years, says the Abbè du Bos, since the songs composed in France were generally speaking, no more than a series of long notes . . . and it is fourscore years since all the ballet-airs had only a slow movement, and their music, if I may be permitted the expression, moved with a grave solemn pace, even in its greatest gaiety." Such was the music regretted by those who censured Lulli.

§ 53. Music is an art of which every man thinks himself a judge, consequently the number of bad judges must be very considerable. There is certainly in this as in other arts, a point of perfection, from which we must not wander. But how vague is this principle! who has determined this point as yet? and if it be not yet determined, who is to find it out? is it the unpractised ears, because they are the greater number? if so, there was a time when Lulli's music was justly condemned. Is it the ears of those who are skilled in music, though they are the smaller number? if so, there is then a music not less excellent, for differing from that of Lulli.

Music must naturally have been criticised in proportion as it improved, especially if its progress was considerable and subitaneous: for then it differs most from the sounds to which our ear is accustomed. But if we begin to be used to it, then it pleases, and it is prejudice any longer to oppose it.

§ 54. There is no possibility of ever having an adequate notion of the instrumental music of the ancients; I shall therefore be satisfied with starting a few conjectures on the music of their declamatory speaking.

In all likelihood this music deviated from their ordinary pronunciation in the same manner almost as our recitation deviates from our common discourse, and was equally varied according to the nature of the performances. In comedy it must have been as simple, as their prosody would permit. It was no more than the ordinary pronunciation altered so far

as was necessary to measure sounds, and to conduct the voice by certain intervals.

In tragedy the music admitted of greater variety and extent; especially in the monologues, to which they gave the name of *cantica*. These are generally the most affecting scenes; for it is natural, that the personage who checks himself in the other parts of the play, should give vent to his passion, when he comes to be alone. Hence the Roman poets caused their monologues to be set to music by masters of that art. Sometimes they even employed those musicians to compose the recitation of the remainder of the play. It was not so among the Greeks; their poets understood music, so that they performed this task themselves.

In fine, the music of the chorusses was more heightened than that of the other scenes: here it was that the poet gave loose to his fancy; and no doubt but the musician followed his example. These conjectures are confirmed by the different sorts of instruments which accompanied the vocal performance of the actors; for the extent of their reach was certainly suited to the nature of the words.

We cannot form an idea of the ancient chorus by that of our opera's. Their music was very different, since they were not acquainted with composition in parts; and their dancing was perhaps still more remote from any resemblance to our ballets. "It is easy to conceive, says the Abbé du Bos, that their dances were nothing more than gestures or signs made by the characters of the chorus to express their sentiments, whether it be that they spoke, or by a dumb shew testified
" how

“ how greatly they were moved at the event in
“ which they were to be concerned. This kind of
“ declamation frequently obliged the choruses to
“ walk on the stage, and as the evolutions which
“ a number of persons go through at the same
“ time, cannot be performed without some previous
“ adjustment, unless we suppose them to have been
“ done by a giddy multitude, the ancients had pre-
“ scribed certain rules to the movements of the
“ chorus.” Upon stages so capacious as those of
the ancients, these evolutions might exhibit such
pictures, as were extremely proper for expressing
the passions with which the choruses were actuated.

§ 55. The art of determining the recitation by
note and measure, and of accompanying it with in-
strumental music, was known at Rome even from the
earliest times of the republic. Their recitation in
the beginning was simple enough : but in pro-
cess of time their communication with the Greeks
was the occasion of its being altered. The Romans
could not withstand the harmony and expression of
the language of Greece. From so polite a nation
they learnt a taste for letters, arts, and sciences : and
the Latin tongue conformed to the character of the
Greek, as much as its nature would permit.

Cicero informs us that the accents borrowed of
foreigners, had made a sensible change in the Roman
pronunciation. Doubtless they were the occasion of
the like alterations in the music of their dramatic
performances ; for one is a natural consequence of
the other. And indeed Horace and this orator ob-
serve, that the instruments used on the stage in their
time, had a far greater reach than those of more
ancient

ancient use ; that in the accompaniment the actor was obliged to declaim in a greater number of tones ; and that the music was become so petulant, as to leave no possibility of conforming to its measure, without the most violent agitations. I refer the reader to those passages, as they are quoted by the Abbè du Bos, that he may judge whether they can possibly mean only a simple recitation *.

§ 56. Such is the idea we may form of a musical declamation, and of the causes which first gave rise to it, or made it vary. It remains now that we inquire into the circumstances which were the occasion of so simple a declamation as ours, and of public spectacles so different from those of the ancients.

The nature of the climate would not suffer such cold and phlegmatic people as the northern nations, to preserve the accents and quantity, which necessity had introduced into prosody at the origin of languages. When those barbarians spread themselves over the Roman empire, and had conquered all the western world, the Latin tongue became confounded with their idioms, so as to lose its character. From such source do we derive the want of accents, which we esteem the chief beauty of our pronunciation ; but this original does not prejudice me in its favour. Under these rude people letters declined : the theatres were destroyed : pantomimes ceased : the art of representing the declamatory speaking by permanent signs, and of dividing it between two players ; as likewise those arts which

* Vol. 3. p. 120.

contributed to the decoration of public spectacles, such as architecture, painting, sculpture, and the several branches subordinate to music, were utterly abolished. At the resurrection of letters, the genius of languages was so altered, and the manners of the people were become so different, that it was impossible to comprehend any thing that the ancients had said concerning their public spectacles.

In order to have an adequate idea of the cause of this revolution, we need only to recollect what has been said concerning the influence of prosody. The prosody of the Greeks and Romans had fixed principles, which were so well known, that even the common people themselves without having studied its rules, were shocked at the least default of pronunciation. This enabled them to make their declamatory speaking an art, so as to determine it by note and measure; an art which from that time became a branch of polite education.

This improvement of their modulated elocution, produced the art of dividing the music and the action between two comedians; it also gave rise to pantomimes; and extending its influence even to the form and dimensions of the theatres, it occasioned, as we have already observed, their being made large enough to contain a considerable part of the people.

Such was the source of that passion which the ancients had for public spectacles, and for the several arts subservient to theatrical decorations, such as music, architecture, painting, and sculpture. Among such a people, abilities could not be lost; be-
cause

cause each citizen had continual opportunities of exercising his fancy.

As the French language has hardly any such thing as prosody, it follows that our declamatory speaking could have no settled rules; that it was impossible for us to represent it by permanent signs; that we could never learn the art of dividing it between two actors; that we are not greatly affected with pantomimes; and that our public spectacles are confined to buildings where only an inconsiderable part of the people can assemble. From thence proceeds, what indeed is more to be lamented, the little taste we have for music, architecture, painting, and sculpture. We think that we alone resemble the ancients in general, but that in this particular we must yield to the Italians. It is plain therefore that if our theatrical entertainments are so greatly different from those of the Greeks and Romans, it is a natural effect of the changes which have happened in our prosody.

CHAP. VI.

Comparison between the musical and the plain declamation.

§ 57. **O**UR plain declamation now and then admits of as distinct intervals as melody. If these intervals were altered no further than is necessary to measure the sounds, they would not appear less natural, and they might be determined by notes. It is even my opinion, that a comedian, who

who has taste and a good ear, will naturally prefer the harmonic sounds, whenever they do not deviate too much from our usual pronunciation. It is doubtless for this sort of sounds that Molière invented notes*. But the scheme of representing the other parts of the recitation by permanent marks, is impossible; for the inflexions of the voice become then so feeble, that to measure the tones, the intervals must be altered to such a degree, as would render the recitation altogether unnatural.

§ 58. Though our plain declamation does not, like the modulated elocution of the ancients, admit of a succession of measurable sounds, yet it expresses the passions with energy sufficient to move those who are used to it, and whose language has very little life or variety in its prosody. The reason of its producing this effect is, because the sounds retain almost the same proportions as in music. I say almost, for as they cannot be measured, it is impossible for their relations to be so exact.

Our declamatory speaking is therefore naturally less expressive than music. For I want to know what sound is best adapted to express any particular passion? In the first place, it must surely be that which imitates the natural sign of this passion; and this is common both to declamation and music. Next it is the harmony of those first sounds, as being more closely connected with them. In fine, it is every sound that may arise from this harmony, varied and combined in the movement which characterises each passion: for every passion determines

* Critical Ref. vol. III. p. 243.

the tone and movement of that music which is most proper for expressing it. Now these two last species of sounds are seldom to be met with in our declamatory speaking; besides it does not imitate the passions like music.

§ 59. And yet this defect of our recitation is compensated by the advantage it has of appearing more natural to us. It gives an air of truth to its expression, from whence it follows, that though it makes a much weaker impression on the senses than music, yet it acts with greater force on the imagination. Hence we are oftentimes more affected with a fine speech at a play, than with a fine recitative. But when the music does not destroy the deception, it makes a much deeper impression in its turn.

§ 60. Though our recitation cannot be determined by permanent signs, yet I think there might be some method of fixing it. For this end it would be sufficient that a musician had but taste enough to observe very near the same proportions in his melody, as the voice observes in the recitation. Those who had made themselves masters of this melody, might, with a good ear, trace the very recitation from which it was composed. Would it not be an easy matter for a person, who was thoroughly master of Lully's recitatives, to declaim in Quinault's theatrical pieces, as Lully himself would have declaimed? In order however to render the thing still more easy, it were to be wished that the melody was extremely simple, and that the inflexions of the voice were distinguished no farther than was necessary to measure them. Lully's recitatives would be much better understood, if they had less melody. We have

have therefore reason to believe that this would be a great assistance to those who had some disposition to declamatory speaking.

§ 61. The prosody of different languages does not deviate equally from music. In some it affects a greater, in some a lesser variety of accents, because from the variety of constitutions in people of different climates, it is impossible they should have the same sensibility. For this reason, according to the genius of languages, different kinds of declamation and music are requisite. We say, for instance, that the tone in which an Englishman expresses anger, in Italy would be only a mark of surprize.

The capaciousness of the Greek and Roman theatres, the expence of their decorations, the masks which impressed the physiognomy of each character, their modulated elocution, which was infinitely more expressive than our plain recitation, all this seems to prove the superiority of the theatrical entertainments of the ancients. To make amends we have the graces, and the expression of the countenance, with some finenesses in acting, which in any other recitation would be lost to the audience.

C H A P. VII.

Which is the most perfect prosody.

§ 62. **I** Do not doubt but every man will be inclinable to determine in favour of the prosody of his own language: but in order to guard against this

this prejudice, let us endeavour to frame an exact idea of the question.

The most perfect prosody is that whose harmony is best adapted to express all sorts of characters. Now there are three things concurring to harmony; the quality of the sounds, the intervals by which they succeed each other, and the movement. A language must therefore have sounds of different softness, even some that are rough, in a word, some of all kinds; secondly, it must have accents to determine the voice to rise and to fall; thirdly, by inequality of syllables it must be capable of expressing all sorts of movements.

To produce harmony, the cadences ought not to be placed indifferently. Sometimes the harmony ought to be suspended, and at other times it ought to terminate with a sensible pause. Consequently in a language, whose prosody is perfect, the succession of sounds should be subordinate to the fall of each period, so that the cadences shall be more or less abrupt, and the ear shall not find a final pause, till the mind be intirely satisfied.

§ 63. If we consider the surprize with which Cicero speaks of the effects of oratorical numbers, it is sufficient to convince us that the prosody of the Romans made much nearer approaches than ours to this point of perfection. He represents the people in raptures at harmonious periods; and to shew that this was intirely owing to the numbers, he changes the order of words in a period that had met with great applause, and assures us that they immediately perceived it had lost its harmony. The last construction no longer preserved by a pro-

per mixture of long and short syllables, and accents, the necessary order for pleasing the ear †. The French language is soft and smooth, but there is something farther wanting to constitute harmony. I do not find that in the different turns or forms of expression, our French orators have ever hit upon any thing similar to those cadences, with which the Romans were so greatly affected.

§ 64. Another reason that confirms the superiority of the Latin prosody, is the relish the Romans had for harmony, and the delicate ear for which even the common people were remarkable. The comedians could not commit the least default in regard to quantity, but immediately the whole audience expressed their disapprobation.

Facts like these we cannot read without surprize, because we observe nothing of the same kind in our own nation. The reason is, the pronunciation of people of taste is so simple, that those who are guilty of a small mistake can be corrected by very few, there being but very few to whom it is familiar. Among the Romans it was so strongly marked, and the quantity of syllables was so determined, that even vulgar ears thoroughly understood it; so that whatever discomposed the harmony could not avoid being grating to them.

§ 65. I shall continue my conjectures with observing, that as the Romans were more sensible of harmony than our nation, so the Greeks had a greater sensibility than the Romans, and the Asiatics still a greater than the Greeks: for the more ancient the languages, the nearer their prosody must have bordered

† Cicero de orat.

upon

upon music. And indeed we have reason to think that the Greek language was more harmonious than the Latin, since the latter borrowed its accents from the former. With regard to the Asiatics they were fond of harmony to such a degree, that the Romans looked upon it as excess of affectation. This we learn of Cicero, when, after blaming those who, to render the sentence more sonorous, spoil it by forced transpositions, he represents the Asiatic orators as greater slaves to numbers than the rest. Perhaps he would think, were he now living, that the nature of our language makes us fall into the opposite extreme: but if in this we lose some advantages, we shall presently see that we are made amends in other respects.

What has been said at the end of the sixth chapter of this section, is a sensible proof of the superiority of the ancient prosody.

CHAP. VIII.

Of the origin of poetry.

§ 66. **A**S the prosody of the primitive languages fell very little short of melody; so the style of those languages affecting to imitate the sensible images of the mode of speaking by action, adopted all sorts of figures and metaphors, and was become extremely picturesque. For example, in the mode of speaking by action, to give an idea of a person that had been frightened, they had no other way than to mī-

mic the cries and natural signs of fear. Therefore to communicate this idea by articulate sounds, they made use of the different expressions by which it was particularly described. A single word, which depicts nothing, would not have been sufficiently expressive to have immediately succeeded the mode of speaking by action: this was a language so well proportioned to rude capacities, that it could not be supplied by articulate sounds, without accumulating expressions one upon the other. The sterility of languages did not even permit them to express themselves otherwise: as these seldom afforded a proper term, they had no other way of explaining their meanings, than by repeating similar ideas. This is the origin of pleonasm; a defect for which the ancient languages are particularly remarkable. And indeed examples hereof occur very frequently in the Hebrew. It was a long time before they learnt to connect a single word with ideas, which they had been used to express by very complex movements; neither did they avoid diffuse expressions, till languages becoming more copious, they were furnished with proper and familiar terms for every idea. Precision was much sooner received among the northern nations. In consequence of their cold and flegmatic constitutions, they were readier to part with any thing that resembled the mode of speaking by action. Every where else the influence of this manner of communicating their thoughts subsisted a long time. Even now, in the southern parts of Asia, pleonasm is considered as an elegance of speech.

§ 67. The style of all languages was originally poetical, because it began with depicting the most sensible

sensible images of our ideas; and besides it strictly conformed to measure. But in proportion as languages became more copious, the mode of speaking by action was abolished by degrees, the voice admitted of less variety of tone, the relish for figures and metaphors, for the reasons I shall hereafter mention, insensibly diminished, and their style began to resemble our prose. Authors nevertheless adhered to the ancient language, as more lively and better adapted for making an impression on the memory; the only way at that time of transmitting their works to posterity. This language received different forms; rules were also invented for increasing its harmony, so that it became a particular art. The necessity they were under of making use of it, gave rise to the opinion which long prevailed, that their compositions ought always to be in verse. So long as mankind had no permanent signs to fix their fleeting conceptions, they were induced to be of that opinion, because verse is easier learnt and better retained. Yet the practice still continued through prejudice, after this reason had ceased. At length a philosopher, disdaining to be fettered by the rules of poetry, was the first who ventured to write in prose*.

§ 68. Rhime did not, in the same manner as measure, figures, and metaphors, derive its origin from the first institution of languages. The cold and phlegmatic people of the north could not conform to a prosody of such strict measure, when the necessity which gave rise to it no

* Pherecydes, of the island of Scyros is the first we know of who wrote in prose.

longer subsisted. To supply this defect, they were obliged to invent rhyme.

§ 69. It is not at all difficult to conjecture by what progress poetry became an art. When mankind had observed the uniform and regular cadences accidentally introduced into language, together with the different movements owing to the inequality of syllables, and the agreeable impression arising from particular inflexions of the voice; they formed patterns to themselves of numbers and harmony, from which they gradually derived all their rules of versification. Music and poetry are therefore of equal antiquity.

§ 70. These two arts associated themselves with that of gesture, their elder sister, and known by the name of *Dance*. From whence there is reason to conjecture, that some kind of dance, and some kind of music and poetry, might have been observed at all times, and in all nations. The Romans inform us that the Gauls and Germans had their musicians and poets: and the same thing has been remarked in our times, in regard to the Negroes, the Canibals, and the Iroquois. Thus it is that even among Barbarians we find the seeds of those arts which are matured to perfection in civilized countries, and which having been since employed as instruments of higher luxury, appear so remote from their source, that we find a difficulty to trace it.

§ 71. The intimate connexion which these arts have with their original, is the reason of their being confounded by the ancients under a general name. With them the word *music* comprehends not only the art meant thereby in our language, but more-
over

over that of gesture, dancing, poetry, and declamatory speaking. To these united we must attribute most of the effects of their music, and then they cease to be so surprizing *.

§ 72. We see plainly what were the subjects of the earliest poems. At the first institution of societies, mankind could not as yet employ themselves in matters of amusement; so that the wants which obliged them to unite, at the same time confined their views to whatever might be useful or necessary to them. Therefore poetry and music were cultivated merely with a design to promote the knowledge of religion and laws, or to preserve the memory of great men, and of the services which they had done to society. Nothing could be more proper for this purpose: and indeed it was the only method they could take; for as yet they were strangers to writing. From the several monuments of antiquity it appears, that these arts in their infancy were intirely applied to the instruction of the people. The Gauls and Germans made use of them for preserving their religion and laws; while among the Egyptians and the Jews they in some measure constituted part of their religion. This is the reason why the ancients insisted that the principal point of education should be the study of music: here I take this term in the full extent they gave it. The Romans looked upon music as necessary to persons of every age, because it taught what was necessary for children to

* It is said, for instance, that Terpander's music appeased a sedition: this however was not an instrumental performance, but verses which this poet recited.

learn, as well as what was proper for adult persons to practise. With regard to the Greeks, it was so great a disgrace to be ignorant of this art, that with them a musician and a scholar were synonymous terms; and an ignorant person was called a man who did not understand music*. They could not believe that this art was a human invention, but imagined those instruments which most surprized them, to have been of celestial origin. Surpassing us in sprightliness of fancy, they were more sensible of harmony: besides, the veneration they had for their laws, their religion, and the great men whose praises they sang, was extended to music, by which the tradition of these things was preserved.

§ 73. As the prosody and style of languages became more simple, prose began to differ more and more from verse. On the other hand the human mind improving, poetry decked itself with fresher images; by which means it deviated more from the language in common use, and became less proper for the instruction of the vulgar.

Further, laws and public transactions, together with every thing that deserved the attention of mankind, were multiplied to such a degree, that the memory grew too weak for so heavy a burden; and human societies increased in such a manner, that the promulgation of the laws could not, without difficulty, reach the ears of every individual. In order therefore to instruct the people, they were obliged to have recourse to some new method. Then it was that writing was invented: what progress it made I shall presently relate†.

* ἀμουσος.

† Chapter 13th of this section.

Soon after this invention, the subjects of poetry and music began to change: these arts were then divided between utility and pleasure; but at length they were almost intirely confined to things of mere amusement. The less necessary they were become, the more they sought for opportunities of pleasing; and both of them made a very considerable progress.

Music and poetry, hitherto inseparable, began, as soon as they were brought to perfection, to be divided into two different arts. Loud complaints were made against those who first ventured to separate them. The effects they were capable of producing without any mutual aid, were not as yet felt; their future fate nobody had foreseen; and besides, this innovation was too contrary to the practice received. They appealed, as we should have done, to antiquity, which had never employed them separately; and they concluded, that airs without words, or verses without music, were a thing too whimsical and absurd to meet with approbation. But when the contrary had been demonstrated by experience, philosophers began to be afraid lest these arts should enervate the minds of the people. They opposed their progress, and likewise quoted antiquity, which had never rendered them subservient to mere pleasure and amusement. It was not therefore without great difficulty that music and poetry changed their subjects, and were divided into two arts.

§ 74. One would be tempted to believe, that the prejudice in favour of antiquity began with the second race of mankind. The greater our ignorance,

the more we stand in need of guides; and the more we are inclined to believe that our ancestors were always in the right, and that all we have to do is to imitate them. The experience of repeated ages ought surely to have cured us of this prejudice.

Time and circumstances are able to effectuate what reason cannot; but oftentimes the consequence is, that we fall into prejudices of a contrary nature. This is observable in regard to the subject of poetry and music. As our prosody was become so extremely simple, these two arts have been separated in such a manner, that the scheme of uniting them again upon the stage appeared ridiculous to every body, and does so still (so whimsical are mankind) to many who applaud the execution.

§ 75. The subject of the most ancient poems plainly shews us their character. It is probable that they sang of religion, laws, and heroes, only to excite sentiments of love, admiration, and emulation, in the minds of the people. They were psalms, canticles, odes, and songs. With regard to epic and dramatic poems, these are of a much later date. We are indebted to the Greeks for the invention; and their history has been writ by so many pens, that every body must know it.

§ 76. We may judge of the style of the earliest poems by the genius of the primitive languages.

In the first place, the custom of leaving out words which are to be supplied, is very frequent. Of this the Hebrew is a strong proof; the reason of it is this:

The custom which necessity had introduced, of intermixing the language of action with that of articulate

culate sounds, continued still a long time, even when that necessity ceased, especially among people of such a sprightly fancy as the eastern nations. Hence it is that when a new word was invented, they understood each other equally well, whether they spoke it or not. For this reason they were inclined to omit it, in order to express themselves with greater force, or to include their thought within the measure of a verse. This liberty was so much the more excusable, as their poems having been designed to be sung, and before the art of writing was invented, the tone and gesture supplied the word omitted. But when in succession of time a particular name was become the most natural sign of an idea, it was no longer easy to supply it. Hence it is that, tracing the several languages from those of more modern date, to those of the greatest antiquity, we shall find that the custom of leaving out words which are to be afterwards supplied, has gradually diminished. The French tongue in particular is so averse to it, that one would imagine it calls our understanding in question.

§ 77. Secondly, the most ancient poets could have no knowledge of accuracy and precision. Hence it is that in order to fill up the measure of their verse, they frequently inserted useless words, or repeated the same thing several ways: a new reason of the frequent pleonasm in the ancient languages.

§ 78. In fine, their poetry was extremely figurative and metaphorical: for we are informed that in the oriental languages, even their prose admits of such figures as in Latin poetry are seldom allowed. It is therefore among the oriental poets that enthusiasm

also produced the most irregular flights: it is in their compositions that the passions were painted in such colours as would appear to us unnatural. And yet I am not sure that we have any right to find fault with them: they had not the same degree of feeling as we, and therefore were not obliged to use our manner of expressing. To judge impartially of their performances, we should consider the temper of those nations for whom they wrote. A great deal is said of the beauty of nature; every polite nation prides itself in copying it; but every man thinks he perceives the copy in his own degree of sensibility. Let us not therefore be surprized if this native beauty is so difficult to be found; too often it changes face, or at least it disguises itself in the dress peculiar to each country. I am not even certain whether the manner in which I now express myself in regard to this beauty, does not a little partake of the air which it has lately assumed in France.

§ 79. The dissimilarity that arose between poetic style and common language, opened a middle way from which eloquence derived its origin, and from which it sometimes deviated to draw near to the style of poetry, and sometimes to resemble common conversation. From the latter it differs only as it rejects all sorts of expressions that have not a sufficient dignity, and from the former only because it is not subject to the same measure, and according to the different character of languages, it is not allowed some particular figures and phrases which are admitted in poetry. In other respects these two arts are sometimes confounded in such a manner, that it is no longer possible to distinguish them.

C H A P.

C H A P. IX.

Of words.

I Could not bear any interruption in what I had to say concerning the art of gesture, of dancing, prosody, declamation, music, and poetry: these several articles have an intimate connexion with each other, and with the mode of speaking by action, from which they are derived. I shall now inquire into the progress by which the language of articulate sounds was perfected, till at length it became of all others the most convenient.

§ 80. In order to comprehend in what manner mankind agreed among themselves, about the first signification of words, it is sufficient to observe, that they pronounced them under such particular circumstances, that every one was obliged to refer them to the same perceptions. Thus they ascertained the meaning with more precision, according as from the more frequent repetition of circumstances, the mind was more accustomed to connect the same ideas with the same signs. The mode of speaking by action removed the ambiguities which must have frequently occurred in the beginning.

§ 81. The objects designed for relieving our wants may sometimes escape our attention; but it is very difficult for us not to observe those which are apt to produce sensations of fear and pain. Thus as mankind must have been under a necessity sooner or later of naming things, in proportion as these excited their attention; it is very probable, for example, that

that they gave names to the wild beasts with which they were at war, before they had any particular names for fruits upon which they lived. With regard to other objects, they invented words to distinguish them, according as they found them best suited to the relief of their wants, or as they most solicited their senses.

§ 82. Language was a long time without having any other words than the names which had been given to sensible objects, such as these, *tree, fruit, water, fire*, and others, which they had more frequent occasion to mention. The complex ideas of substances being the first known, since they are immediately derived from the senses, they must have been the first that had names. In proportion as mankind grew capable of analyzing them, by reflecting on the different perceptions which they include; signs were invented for more simple ideas. When they had acquired, for example, the idea of a *tree*, they invented those of a *trunk*, a *bough*, a *leaf*, *verdure*, &c. They came afterwards, though by degrees, to distinguish the different sensible qualities of objects; they took notice of the circumstances to which they might happen to be exposed, and invented words to express all these things: such is the origin of adjectives and adverbs. But it was found very difficult to give names to the operations of the mind, because we are naturally ill qualified for self-reflexion. They were therefore a long while without any other way of communicating these ideas, *I see, I hear, I am willing, I love*, and the like, than that of pronouncing the name of the things in a particular tone of voice, and of signifying

as near as possible by some action their present situation. Thus it is that children who learn these words, only when they already know how to name the objects to which they bear the greatest relation, make known what passes within their minds.

§ 83. In forming a habit of communicating to one another this sort of ideas by actions, mankind accustomed themselves to determine them; and from that time they began to find a greater ease in connecting them with other signs. The names they pitched upon for this purpose, are those which they called *verbs*. Hence the first verbs were contrived only to express the disposition of mind, when we either act or suffer. They had this in common with the adjectives, that they signified the situation of a being; and this in particular that they signified it inasmuch as it consists in what we call *action* and *passion*. *To feel, to move*, were verbs; *great, small*, were adjectives: as to the adverbs they served to make known the substantives which were not expressed by the adjectives.

§ 84. Before they were acquainted with the use of verbs, the name of the object which they intended to speak of, was pronounced at the very instant, when by some action they signified the state of their minds: and this indeed was the surest way of making themselves understood. But when they began to supply the place of the action by means of articulate sounds, the name of the thing naturally presented itself the first, as the most familiar sign. This manner of utterance was the most convenient, as well for the speaker, as for the hearer: for the former, because it made him begin with the idea
which

which was most easy to communicate: for the latter, because by fixing his attention to the subject with which they proposed to entertain him, it prepared him for more easily comprehending a term less familiar to his ear, whose signification he could not so readily understand. Thus the most natural order of ideas required, that the government should precede the verb: they said, for example, *fruit to want*.

This may be still further confirmed by a very simple reflexion: which is, that the language of action having of itself been able to serve as a pattern to that of articulate sounds, the latter must in the beginning have preserved the ideas in the very same order which the use of the former had rendered the most natural. Now it was impossible for the language of action to disclose the situation of one's mind, but by shewing the object to which it related. The movements expressive of want, were not understood, any further than as by some gesture the person had signified what was proper for easing it. If they preceded, they were all lost, and he was obliged to repeat them; for those to whom he wanted to communicate his thought, were as yet not sufficiently practised, to think of recollecting them in order to interpret their meaning. But by means of the attention given to the object pointed at, the action was easily understood. I am apt to think that even now this would be the most natural manner of making use of this language.

The verb coming after its government, the noun that governed it, that is, the nominative, could not be placed between both; for this would have rendered

dered the relation dubious. Neither could it begin the sentence, because its relation to its government would have been less obvious. Its place therefore was after the verb. Thus the words were construed in the very same order in which they were governed; the only way to render them easy to be understood. They said, *fruit want Peter*, instead of *Peter wants fruit*, and the former construction was not less natural than the other is at present. This is proved from the Latin tongue, in which both are equally received: and indeed the Latin seems to preserve a sort of medium between the ancient and modern languages, so as to partake of the character of both.

§ 85. Verbs originally expressed the state of things, only in an indeterminate manner. Such are the infinitives, *to go*, *to act*. The action accompanying them supplied the rest; that is, the tenses, moods, numbers, and persons. In saying *tree to see*, they signified by some gesture, whether they spoke of themselves or of a third person, of one or of many, of the past, present, or future, in fine, whether in a positive or in a conditional sense.

§ 86. The custom of connecting these ideas with the like signs having facilitated the means of affixing them to sounds, words were therefore invented, whose place in a sentence was to be after the verbs, for the same reason as these had been placed after the nouns. Hence they ranged their ideas in this order, *fruit to eat to come me*, instead of *I will eat some fruit*.

§ 87. The sounds which determined the signification of the verb, being always added to it, they

soon came to make but one word conjunctly, which word was differently terminated according to its different acceptations. Then the verb was considered as a noun, which, though indefinite in its original, became, by the variation of its tenses and moods, proper for expressing, in a determinate manner, the active and passive state of every thing. Thus it is that mankind insensibly came to invent conjugations.

§ 88. When words were become the most natural signs of our ideas, the necessity of arranging them in an order so contrary to that which at present prevails, was no longer the same. And yet they continued to do it, because the character of languages, having been framed from this necessity, did not permit any change to be made in this custom; neither did they begin to draw near to our manner of conceiving, till after a long succession of idioms. These changes were very slow, because the last languages always retained something of the nature of those which had preceded them. Thus in Latin we plainly see some remains of the character of the most ancient languages; and from thence they have been received into the French conjugations. When we say, *je fais, je faisais, je fis, je feray**, &c. we distinguish the tense, mood, and number, only by varying the terminations of the verb; because in this respect the French conjugations were made in imitation of those of the Latin tongue. But when we say, *j'ai fait, j'eus fait,*

* I do, I did, I shall do, &c.

j'avois fait *, &c. we follow that order which is become most natural to us : for *fait* †, is properly the verb, since it is the name which signifies the state of action ; and *avoir* ‡, answers only to the sound, which at the origin of languages came after the verb, to point out its tense, mood, and number.

§ 89. The same remark may be made on the term *être* §, which renders the participle joined to it, sometimes equivalent to a verb passive, and at other times to the compound preterit of a verb active or neuter. In these phrases *je suis aimé, je m'étois fait fort, je serois parti* ; *aimé* expresses the passive state, *fait* and *parti* the active : but *suis, étois, and serois*, denote only the tense, mood, and number. This sort of words were very seldom used in the Latin conjugations, where they were construed as in the primitive languages, that is, after the verb.

§ 90. Since there are terms in French which we put before the verb, in order to point out the tenses, mood, and number, by placing them after the verb we might frame to ourselves a model of the conjugations in the primitive languages. This would give us, for instance, instead of *je suis aimé, j'étois aimé* ||, &c. *aimésuis, aimétois*, &c.

§ 91. Mankind did not multiply words without necessity, especially in the beginning : for they were at no small trouble to invent and to retain them. The same noun which was the sign of a tense or of a mood, was therefore placed after each verb ; from

* I have done, I had done, I had done. † Done. ‡ To have. § To be. § I am beloved ; I had made myself strong ; I should have gone. || I am beloved, I was beloved.

whence it follows, that every mother tongue had at first only one conjugation. That their number increased, was owing to the mixture of several languages, or to this, that as the words signifying the tenses, moods, &c. were pronounced with more or less ease according to the verb which preceded them, they happened sometimes to be altered.

§ 92. The different qualities of the mind are no more than the effect of the different states of action and passion through which it passes, or of the habits which it contracts, when it acts or suffers at several times. To know these qualities, it is therefore necessary to have some idea of the different manners in which this substance acts and suffers: consequently the adjectives which express them, could not be currently received till after the verbs were known. The verbs *to speak*, and *to persuade*, must needs have been in use, before that of *eloquent*: this example is sufficient to explain my meaning.

§ 93. Speaking of the names given to the qualities of things, I have as yet made mention only of adjectives; because abstract substantives were not known till a long while after. When mankind began to observe the different qualities of things, they did not see them all separate, but as something which inhered in a subject. Consequently the names they gave them, must have imported some idea of this subject: such as the words *great*, *vigilant*, &c. In process of time they examined the ideas they had framed, and were obliged to decompound them, in order more conveniently to explain their new conceptions: then it was that the qualities were distinguished

guished from their subject, and that the abstract substantives of *greatness*, *vigilance*, &c. were framed. If we could trace all the primitive nouns, we should find that there is not one abstract substantive but is derived from some adjective, or from some verb.

§ 94. Before the use of verbs they had adjectives, as we have already seen, to express sensible qualities; because those ideas which are easiest to determine, must have been the first that had names. But for want of a word to connect the adjective with its substantive, they were satisfied with placing the one near the other. *Terrible monster* signified, *this monster is terrible*; for the action or gesture supplied what was not expressed by the sounds. In regard to which we are to observe that the substantive was construed sometimes before, and sometimes after the adjective, according as they wanted to lay a greater stress on either of these ideas. A person surprized at the tallness of a tree, would say, *tall tree*, though on other occasions he had made use of the words *tree tall*: for the idea which strikes us most, is that which we are naturally inclined to pronounce the first.

As soon as they became acquainted with the use of verbs, they easily observed that the word which had been added to them, to distinguish the person, number, tense, and mood, had also the property of connecting them with the noun which governed them. Hence it came that they employed this very same word for the connexion of the adjective with its substantive, or at least that they invented one of a like sort. This is the use of the verb *to be*, only that it does not denote the person. This way of

connecting two ideas, is, as we have elsewhere observed*, what is called *affirming*. Hence the character of this word is to mark the affirmation.

§ 95. When this word was made use of to connect the substantive and the adjective, they joined it to the latter, as to that on which the affirmation more particularly falls. But the same happened very soon in this case, as before had happened in regard to the verbs; which is, that the two words were melted into one. Thus the adjectives became susceptible of conjugation, and were distinguished from the verbs, only because the qualities which they expressed, were neither action nor passion. Then to rank all these nouns in the same class, they considered the verb, only as a word, *which being susceptible of conjugation, affirms some quality or other concerning a subject*. Hence there were three sorts of verbs: the first active, or which signify some action; the second passive, or which are expressive of passion; and the last neuter, or which denote every other quality. Grammarians afterwards changed these divisions, or imagined new ones, because it appeared more convenient to them to distinguish the verbs by their government, than by the sense.

§ 96. The adjectives having been changed into verbs, the construction of languages was somewhat altered. The place of these new verbs varied like that of the nouns from which they were derived: in consequence of which they were placed sometimes before, and sometimes after the substantive which

* First part, sect. 2. p. 74.

they governed. This practice was afterwards extended to the other verbs. Such is the period introductory to the construction now so natural to us.

§ 97. Men were therefore no longer obliged to range their ideas constantly in the same order: they separated the superadded word from several adjectives, and conjugated it apart; and after they had a long time placed it indifferently, as may be proved from the Latin tongue, it was fixed in the French after the noun which governs it, and before its government.

§ 98. This word was not the sign of any quality, neither could it have been ranked among the verbs, if the idea of a verb had not been enlarged in its favour, as had been already the case in regard to the adjectives. It was therefore no longer considered but *as a word which signifies affirmation with the distinction of persons, numbers, tenses, and moods*. From that time *to be* was properly the only verb. As the grammarians had not traced these several alterations, they could not easily agree in regard to the idea we ought to have of this part of speech*.

§ 99. The Latin declensions ought to be explained in the same manner as the conjugations; for their original must be the same. To express number, case, and gender, they invented words which were placed after the nouns, and varied their termination. Concerning which it is observable, that the

* Of all the parts of speech, says the Abbè Regnier, there are none that have had so many definitions, as the verbs. French Grammar, p. 325.

French declensions were partly framed from the Latin, because they admit of different terminations; and partly from the order in which we now range our ideas; for the articles which are the signs of number, case, and gender, are put before the nouns.

I am apt to think that a comparison between the French and Latin tongues would sufficiently justify my conjectures, and that there is reason to presume they would prove to have been well grounded, could we ascend to a primitive language.

§ 100. The Latin conjugations and declensions have the advantage of variety and precision over the French. The frequent use we are obliged to make of auxiliary verbs and of articles, renders our style diffuse and prolix: this is so much the more obvious from our being so nice as even to repeat the articles without necessity. For example, we do not say, *c'est le plus pieux et plus savant homme que je conneisse**, but we say *c'est le plus pieux & le plus savant*, &c. We may likewise observe that from the nature of our declensions we want those nouns which the grammarians call comparatives, and whose place we supply only by the word *plus*†, which requires the same repetition as the article. The conjugations and declensions being the parts of speech which occur most frequently, it is evident that the French is not so precise a language as the Latin.

§ 101. But our conjugations and declensions have in another respect an advantage over the Latin; by

* He is the most pious and most learned man I know.

† More.

making us distinguish some significations which are confounded in that language. We have three preterits, *je fis*, *j'ai fait*, *j'eus fait* *; in Latin there is but one. The omission of the article sometimes changes the sense of a proposition: *je suis pere* & *je suis le pere* †, have two different meanings, which are confounded in the Latin tongue.

* I did, I have done.

† I am father, I am the father.

CHAP. X.

The same subject continued.

§ 102. **A**S it was impossible to invent names for each particular object; it became therefore necessary to have recourse to general terms. But to distinguish circumstances, so as to be sure that each person formed the same abstractions, and gave the same names to the same ideas, was a matter of great nicety and judgment. Whosoever is acquainted with metaphysical writers, must be convinced that even at this time it is not an easy matter to attain to any such certainty.

To comprehend the order in which those abstract terms were invented, it is sufficient to observe the order of general ideas: for the original and progress of both are the same. I mean that if it be certain that the most general notions are derived from the ideas which we immediately receive from the senses, it is equally certain that the most abstract

terms

terms come from the first names which were given to sensible objects.

Men, so far as they are able, refer their last ideas to some of those already acquired. Thus it is that such notions as are less familiar to them, become connected with those which are more so; and this indeed is a very great help to the memory and the imagination. When circumstances therefore induced them to take notice of new objects, they inquired how far they agreed with such as they already knew, and ranging them in the same class they made the same names serve for both. Thus it is that the ideas of signs became more general; but this was done insensibly, they rose only by degrees to the most abstract ideas, and it was a long time before they had the terms of *essence*, *substance*, and *being*. Doubtless there are nations that have not as yet enriched their language with these terms*; and if they are more ignorant than we, this is not what renders them so.

§ 103. The more the use of abstract terms was established, the more it shewed the conveniency of articulate sounds for expressing even those thoughts which seem to have the least relation to sensible things. The imagination strove to discover in the objects which struck the senses, an image of what passed within the mind. Mankind having observed that motion and rest were the properties of matter, having likewise observed the tendency or inclination of bodies, having perceived that the air is moved, is darkened, and enlightened; that the plants shoot

* This is confirmed by the relation of M. de la Condamine.

up, come to maturity, and then decay: thence took occasion to say the *motion, the rest, the tendency or inclination of the mind*, and that *the mind is moved, is darkened, is enlightened, shoots up, comes to maturity, and decays*. In fine they were satisfied with finding any kind of relation between the action of the mind and that of the body, to give the same name to both*. For whence comes the word *spirit* itself, but from the idea of a very subtil matter, of a vapour, of an imperceptible breath? an idea with which a great many philosophers are grown so familiar, as to imagine that a substance composed of innumerable parts, is capable of thinking? But this is an error which we have elsewhere refuted†.

That all these names were originally figurative, will appear evident to every man that considers the matter. Examples indeed might be taken from some of the most abstract terms, where this truth would not appear in so clear a light; such is the word *thought*‡: but we shall quickly shew that it makes no exception.

It

* "And I doubt not (says Mr. Locke,) but if we could trace them to their sources, we should find, in all languages, the names which stand for things that fall not under our senses, to have had their first rise from sensible ideas. By which we may give some kind of guess, what kind of notions they were, and whence derived, which filled their minds, who were the first beginners of languages; and how nature, even in the naming of things, unawares suggested to men the originals and principles of all their knowledge," Essay on hum. underst. book 3. c. 1. §. 5.

† First part, sect. 1. c. 1.

‡ I think this is the strongest example we could pitch upon,

Of

It was men's wants that first afforded them the opportunity of observing what passed within themselves, and of expressing it by actions and afterwards by words. Therefore those observations were only in relation to these wants, so that the distinction made in many things was only so far as these wants engaged them to make it. Now these wants were entirely relative to the body. Hence the first names that were given to what we are capable of feeling, signified none but sensible actions. In process of time men became gradually familiar with abstract terms, learnt to distinguish the soul from the body, and to consider the operations of these two substances separately. Then they not only perceived which was the action of the body, when we say, for instance, *I see*; but they likewise more particularly observed the perception of the mind, and be-

Of this we may judge by an argument *ab absurdo*, which the Cartesians bring against those who pretend that all our ideas are derived from the senses. "By what senses, say they, could ideas that are altogether of a spiritual nature, that of thought, for example, and that of being, ever enter into the understanding? Are they luminous or coloured to enter by the sight? of a grave or acute tone to enter by the hearing? Of a good or bad scent to enter by the smelling? Of a good or bad taste to enter by the taste? Cold or hot, hard or soft, to enter by the touch? And if no reasonable answer can be given, it must be allowed that spiritual ideas, such as those of being and of thought, do not in anywise derive their original from the senses, but that the mind has of itself the faculty of framing them." *Art. of thinking.* This objection is taken from St. Austin's confessions. It might have imposed upon some before Locke wrote, but now the objection is become quite frivolous,

gan to look upon the term *to see*, as proper for expressing both. And in all probability this custom was so naturally established, that they were not sensible of their having extended the signification of this word. Thus it was that a sign, which in the beginning had been applied only to a corporeal action, came to denominate an operation of the mind.

The more they wanted to reflect on those operations whose ideas had been this way acquired, the more they grew sensible of the necessity of referring them to different classes. They did not indeed invent new terms for that purpose; this would not have been the easiest way to make themselves understood: but insensibly and as occasion required, they enlarged the signification of some of the words which were become the signs of mental operations; insomuch that one of them became at last so general as to express them all: this is *thought*. We ourselves do not act otherways, when we want to communicate an abstract idea, which has not as yet been adopted by custom. Thus every thing confirms what I have been saying in the foregoing paragraph, *that the most abstract terms are derived from the first names that were given to sensible objects.*

§ 104. When the use of those signs became familiar, their origin was forgot, and people were so weak as to believe that these were the most natural names for spiritual things. It was even imagined that they perfectly explained the essence and nature of those things, though they only expressed some imperfect analogies. This abuse is manifestly seen in the writings of ancient philosophers; it still subsists even in the best of the moderns,

derns, and is the chief source of the slow progress we make in the art of reasoning.

§ 105. As mankind, especially at the origin of languages, were very ill qualified to reflect on themselves; and as to express what they might have inwardly observed, they were possessed only of such signs as had been hitherto applied to things of quite a different nature, we may easily judge of the difficulties they had to surmount, before names were given to particular operations of the mind. The particles, for instance, which connect the different parts of discourse, must have been invented very late. They express the manner in which the objects affect us, and the judgments which we frame of them, with a delicacy long unperceived by our dull understanding, which rendered it impossible for mankind to reason. To reason, is to express the relations which subsist betwixt different propositions; now that the conjunctions alone afford us the means of expressing these relations, is evident. The want of these particles could be but very imperfectly supplied by the mode of speaking by action; nor were they in a condition of expressing by names the relations signified by those particles, till they had been fixed by particular circumstances, and a great many different times. We shall presently see that this is the origin of apologue or fable.

§ 106. Mankind never understood one another better, than when they gave names to sensible objects. But so soon as they wanted to pass to the archetypes, as they had generally no patterns to go by, as they were likewise under circumstances which incessantly varied, and as they did not all
equally

equally understand how to conduct the operations of their minds; they began to have a great deal of difficulty to understand one another. They assembled under the same term a greater or lesser number of simple ideas, and frequently of ideas quite heterogeneous; from whence arose a multitude of verbal disputes. It was rare to find in regard to these matters, terms perfectly corresponding to each other in two different languages. On the contrary it was a common thing, to observe several in the same language, the signification of which was not sufficiently determined, and of which a thousand different applications might be made. These defects have crept even into the works of philosophers, and are the source of a great many errors.

We have seen, when speaking of the names of substances, that those of complex ideas were invented before the names of simple ideas*: but in giving names to archetypes, they followed quite a different order. These notions being no more than assemblages of many simple ideas made at pleasure, it is evident that we could not frame them, till after we had already determined by particular names, each of the simple ideas which we wanted to insert into the collection. For example, the name of *courage* was not given to the idea it signifies, till after having fixed by other names the ideas of *danger*, *knowledge of danger*, *obligation of exposing one's self to it*, and *resolution to fulfil this obligation*.

§ 107. The pronouns were the last words invented, because the want of them was felt the

* Above, § 82.

last: it is even probable that people were a long time before they grew accustomed to them. Their minds having been habituated to revive each time the same idea by the same word, they found it difficult to use themselves to a word which stood for another, and sometimes for a whole sentence.

§ 108. To diminish these difficulties, they put the pronouns before the verbs; for being thus nearer to the nouns whose place they supplied, their relations became more obvious. The French language makes even a rule of this; we except only when the verb is in the imperative, and it signifies command: we say *faites le* *. This practice was perhaps introduced, only the better to distinguish the imperative from the present. But if the imperative signifieth prohibition, the pronoun resumes its natural place: we say, *ne le faites pas* †. The reason of this seems obvious. The verb signifies the state of a thing, and the negative marks the privation of this state; it is therefore natural, for the sake of perspicuity, not to separate it from the verb. Now it is *pas* that renders it complete: of course there is a greater necessity for its being joined to the verb than *ne*. It even appears to me that this particle is never willing to be separated from its verb: nor do I know whether any of our grammarians ever made this remark.

§ 109. The nature of words has not been always consulted, by those who wanted to distribute them into different classes: hence it is that some words which are not pronouns, are ranked however in that

* Do it.

† Do not do it.

order. When we say, for example, *will you give me this? you, me, this* signify the person that speaks, the person to whom we speak, and the thing we ask. Hence these are properly nouns that were known long before the pronouns, and which have been placed in discourse, according to the order of the other nouns, that is, before the verb, when they were its government, and after, when they governed it: they used to say, *this want I*, instead of, *I want this*.

§ 110. I believe we have nothing further left than to speak of the distinction of genders: but it is evident that this derives its origin only from the distinction of the sexes; and that the distribution of nouns into two or three sorts of genders, was designed for the greater order and perspicuity of language.

§ 111. Such, or nearly such, is the order in which words were invented. The style of languages did not properly commence, till they had acquired nouns of every species, and had established principles for the construction of speech. Before that time it had been only a certain number of words, which expressed a succession of thoughts, by the assistance of the mode of speaking by action. And yet we must observe that the necessity of pronouns was only in regard to the precision of style.

C H A P. XI.

Of the signification of words.

§ 112. **I**T is sufficient to consider in what manner words were first invented, to observe that the names of simple ideas are the least susceptible of ambiguity: for circumstances plainly determine the perceptions to which they are related. I cannot doubt of the signification of these words, *white*, *black*, when I observe that the use of them is to express some particular perceptions which I actually experience.

§ 113. The same cannot be said of complex ideas: they are sometimes of so compound a nature, that it is a long while before we can assemble the simple ideas that belong to them. A few sensible qualities obvious to vulgar observation, composed at first the idea of substance: in process of time it was rendered more complex, according as new qualities were discovered. It is very likely, for instance, that the notion of gold in the beginning was only that of a yellow and very heavy body: some time afterwards experience made them add the idea of malleability to it, afterwards ductility, and successively all the qualities of which the most able chemists have framed their idea of this substance. Each person might have observed, that the new qualities which he discovered in this metal, had as much right to be added to the idea already formed of it, as the qualities that had been first observed. Hence it was no longer possible to determine

the

the number of simple ideas that might compose the notion of a substance. According to some it was greater, to others lesser; and this intirely depended on experiments, and on the sagacity of the person that made them. Hence the signification of the names of substances must needs have been very uncertain, and been the occasion of a multitude of verbal altercations. We are naturally inclined to believe that others have the same ideas as we, because they make use of the same language; from whence it frequently happens that we imagine we think differently, though we are defending the same opinions. On these occasions an explanation of the terms would be sufficient to remove the subject of dispute, and to shew the futility of a great many questions which are looked upon as important. Mr. Locke gives an example of this, which deserves a place in this work.

“ I was once in a meeting of very learned and
 “ ingenious physicians, where by chance there arose
 “ a question, whether any liquor passed through the
 “ filaments of the nerves. The debate having been
 “ managed a good while, by variety of arguments
 “ on both sides, I (who had been used to suspect
 “ that the greatest part of disputes were more about
 “ the signification of words, than a real difference
 “ in the conception of things) desired, that before
 “ they went any further on in this dispute, they
 “ would first examine and establish among them,
 “ what the word *liquor* signified. They at first
 “ were a little surprized at the proposal; and had
 “ they been persons less ingenious, they might per-
 “ haps have taken it for a very frivolous or extra-

“vagrant one: since there was no one there that
 “thought not himself to understand very perfectly,
 “what the word *liquor* stood for; which, I think
 “too, none of the most perplexed names of sub-
 “stances. However, they were pleased to comply
 “with my motion, and upon examination found,
 “that the signification of that word was not so
 “settled and certain as they had all imagined; but
 “that each of them made it a sign of a different
 “complex idea. This made them perceive that
 “the main of their dispute was about the significa-
 “tion of that term; and that they differed very
 “little in their opinions, concerning some fluid and
 “subtile matter passing through the conduits of the
 “nerves; though it was not so easy to agree whe-
 “ther it was to be called *liquor*, or no, a thing,
 “which when considered, they thought it not worth
 “the contending about*.”

§ 114. The signification of the names of archetypes is still more uncertain than that of the names of substances, whether because it is rare to find the pattern of the collections to which they belong, or because it is oftentimes very difficult to observe every part of them, even when we have the pattern: the most essential are exactly those of which we know the least. In order to frame, for instance, the idea of a criminal action, it is not sufficient to observe the external and visible act, it is necessary moreover to come at things which do not fall under the senses. We must search into the intention of the person that commits it, we must discover the relation

* Essay on Human Understanding, book 3. c. 9. § 16.

Sect. I. HUMAN KNOWLEDGE. 261

which it bears to the law, and even know a great many circumstances that preceded it. All this requires so particular a care, as from our supineness or want of penetration can seldom be expected.

§ 115. It is a matter of curiosity to observe, with what confidence some men make use of language, at the very time they are abusing it. They think they understand each other, though they take no precaution for that purpose. The use of words is become so familiar to us, that we do not at all doubt but our meaning must be understood, as soon as we utter them; as if there must necessarily be the same ideas in the speaker and in the hearer. Philosophers, instead of remedying these inconveniencies, have affected to be very obscure themselves. Each sect has made it a point to invent ambiguous or *insignificant terms*. It is by these means they have endeavoured to support some strange opinions, or to cover some weak part of their hypothesis; a good expedient, as Mr. Locke observes*, to preserve to themselves the admiration of others, by unintelligible terms. At length arose a set of men, who, having framed their language out of the jargon of every sect, took a pride in maintaining both sides of the question upon every subject: a talent formerly, and perhaps still admired, but which we should treat with sovereign contempt, did we but set a right value on things. In order to prevent all these abuses, I shall give here a few rules for the exact signification of words.

* Book III. chap. 10.



§ 116. We ought never to make use of signs, but in order to express ideas which we really have in our minds. In speaking of substances, the names we give them ought to relate only to the qualities which we have observed them to contain, and of which we have made collections. The names of archetypes should likewise import only a certain number of simple ideas, which we have it in our power to determine. We must particularly avoid supposing, without sufficient grounds, that others annex the same ideas as we to the same words. Upon the discussing of a question, our chief care ought to be to consider, whether the complex notions of those with whom we enter into dispute, include a greater number of simple ideas than ours. If we suspect it to exceed ours, we should inform ourselves by how many, and what kind of ideas: if it appears to us less, we should discover what simple ideas we add to theirs.

In relation to general terms, we can consider them only as signs that distinguish the different classes under which we distribute our ideas: and when it is said that a substance belongs to a certain species, we ought simply to understand, that it includes such qualities as are contained in the complex notion signified by a particular word.

In every other case, except that of substances, the essence of a thing is confounded with the idea we have framed of it; and of course the same word is equally the sign of both. A space terminated by three angles is together the essence and the idea of a triangle. The same may be said in regard to whatsoever mathematicians confound under the general term of *magnitude*. Philosophers perceiving that

that in mathematics the idea of a thing imports the knowledge of its essence, have precipitately concluded that the same may be said in regard to physics, and thence imagined that they knew the very essence of substances.

Mathematical ideas being determined by the senses, the confusion of the idea of a thing with its essence, is not attended with abuse: but in sciences where we reason from archetypes, the consequence is, that we are less upon our guard against verbal disputes. I am asked, for instance, what is the essence of those dramatic poems called *comedies*; and whether some particular performances which bear that name really deserve it.

I observe, that the first writer of comedies had no pattern to go by: consequently the essence of that kind of poem consisted intirely in the idea which he himself had framed of it. Those who came after him have successively added something to that first idea, and thereby changed the essence of comedy. We have a right to do the same; but instead of availing ourselves of this right, we consult the models we have before us, and frame our idea from those who please us most. The consequence is, that we admit some pieces into the class of comedies, and others we exclude. If we are afterwards asked whether such a poem be a comedy or not: we answer each of us, according to the ideas we have framed of it; and as these are not all alike, we seem to be of different opinions. If we would substitute ideas in the place of words, we should soon be convinced that we differ only in the manner of expressing ourselves. Instead of thus limiting the idea of a thing, it would

be far more reasonable to extend it, in proportion as we find new branches, of a subordinate nature. Then indeed it would be a curious and useful inquiry to examine which species is superior to the rest.

What has been said of comedy may be applied to epic poetry, since we find it warmly debated, whether *Paradise Lost*, the *Lutrin*, &c. are epic poems.

Sometimes it is sufficient to have inadequate ideas, provided they are determinate; and at other times it is absolutely necessary that they be adequate: this depends on the object in view. We should especially distinguish whether we are speaking of things in order to explain them, or only to receive instruction. In the former case it is not enough to have some imperfect notion of it, we ought to know it thoroughly. But it is a very common failing, to decide most matters with a small number of ideas, and these oftentimes very indeterminate.

When I come to treat of method, I shall point out the means that may be constantly used to determine the ideas which we annex to different signs.

CHAP. XII.

Of transpositions.

§ 117. **W**E flatter ourselves that modern languages have an advantage of the ancient, in arranging words in discourse, as the ideas range themselves in the mind; because we imagine that the most natural order requires we should
declare

declare the subject of which we speak, before we affirm any thing of it; that is, that the verb should be preceded by its nominative, and followed by its government. And yet we have seen that at the origin of languages the most natural construction required quite a different order.

What we here call natural, must certainly vary, according to the different genius of languages, and in some admits of a more extensive acceptation than in others. Of this the Latin tongue is a convincing proof; it unites constructions which are altogether opposite, and seem nevertheless alike conformable to the arrangement of ideas. Such are these: *Alexander vicit Darium, Darium vicit Alexander*. Our making use only of the first, *Alexander overcame Darius*, is not because it is the only natural construction, but because our declensions do not permit us to reconcile perspicuity with a different order.

I ask of those who pretend that in this proposition, *Alexander overcame Darius*, the modern is the only natural construction, on what they found their opinion? Whether they consider the thing in regard to the operations of the mind, or in respect to the ideas, they will find that they are in an error. Taking it on the side of the operations of the mind, we may suppose that the three ideas which form this proposition, are revived at the same time in the mind of the speaker, or that they are revived successively. In the first case there is no order between them; in the second it may vary, because it is every whit as natural that the ideas of *Alexander*, and of *overcoming*, should be revived by that of *Darius*, as it is
that

that the idea of *Darius* should be revived by the other two.

The error will not be less obvious, when we come to consider the thing in regard to the ideas; for the subordination betwixt them, equally authorises the two Latin constructions; *Alexander vicit Darium*, *Darium vicit Alexander*; and for this reason:

Ideas are modified in discourse, according as the one explains, extends, or restrains the other. By these means they are naturally subordinate among themselves, but more or less immediately, in proportion as their connexion itself is more or less immediate. The nominative is connected with the verb, the verb with its government, the adjective with its substantive, &c. but the connexion is not so strict between the government of the verb and its nominative, because these two terms are modified only by means of the verb. The idea of *Darius*, for example, is immediately connected with that of *overcame*, that of *overcame* with the idea of *Alexander*, and the subordination betwixt these three ideas preserves the same order.

This observation shews that to avoid breaking through the natural arrangement of ideas, it is sufficient to conform ourselves to the greatest connexion between them. Now this is equally found in the two Latin constructions, *Alexander vicit Darium*, *Darium vicit Alexander*. Therefore the one is as natural as the other. What leads us into an error on this subject, is our taking that order for the most natural, which is only a habit contracted from the character of our mother language. And yet there are constructions even in the French tongue, which might prevent

prevent our falling into this error, since in these the nominative stands better after the verb: we say, for instance, *Darius que vainquit Alexandre* *.

§ 118. The subordination of ideas is changed in proportion as we conform less to their greatest connexion; and then the construction ceases to be natural. Such is this, *vicit Darium Alexander*; for the idea of *Alexander* is separated from that of *vicit*, with which it ought to be immediately connected.

§ 119. Latin writers furnish us with examples of all sorts of constructions †. *Conferre hanc pacem cum illo bello*; here is one analogous to the modern languages: *hujus prætoris adventum, cum illius imperatoris victoria*; *hujus cohortem impuram, cum illius exercitu invicto*; *hujus libidinis, cum illius continentia*; these are as natural as the former, since the connexion of ideas is not at all altered; and yet they would not be suffered in modern languages. At length the period concludes with a termination which is not natural: *ab illo, qui cepit, conditas*; *ab hoc, qui constitutas accepit, captas dicetis Siracusas*. *Siracusas* is separated from *conditas*, *conditas* from *ab illo*, &c. which is contrary to the subordination of ideas.

§ 120. Transpositions not conformable to the greatest connexion of ideas, would be attended with inconveniencies, if the Latin tongue did not provide a remedy by the relation which the terminations establish betwixt words that naturally ought not to be separated. This relation is such, that the mind easily joins the most distant ideas, to place them in their

* *Darius whom Alexander overcame.*

† Cic. in Verr. 4. § 52.

proper order: if these constructions offend in some measure the connexion of ideas, they have on the other hand some advantages which it is of importance to know.

The first is, they render our discourse more harmonious. And indeed since the harmony of a language consists in the mixture of every kind of sounds, in their movement, and in the intervals by which they succeed each other, we may easily see what harmony arises from transpositions judiciously chosen: Cicero gives us a pattern hereof in the period above-mentioned *.

§ 121. Another advantage is, they render our style more nervous and lively: this appears from the ease we find in placing each word where it ought naturally to produce the best effect. Perhaps some will ask the reason why a word should have a greater force in one place than in another.

To understand this, we need only to compare a construction in which the terms follow the connexion of ideas, to that wherein it deviates from this connexion. In the former, the ideas present themselves so naturally, that the mind perceives their whole succession, without any occasion almost to exercise the fancy. In the other, the ideas, which should immediately follow each other, are too far separated to be perceived in this manner: but if it be artfully made, the most distant words are easily joined by the relation which the terminations establish between them. Thus the trifling difficulty arising from their distance, seems to have been designed only to excite the imagination; and the ideas are

* De Oratore.

dispersed,

dispersed, only that the mind being at the trouble of joining them, should be more sensible of their connexion or opposition. By this artifice the whole force of a sentence centers sometimes in the word with which it terminates. For example,

..... *Nec quicquam tibi prodest
Aërias tentasse domos, animoque rotundum
Percurrisse polum, morituro* †.

This last word (*morituro*) concludes with force, because the mind cannot apply it to *tibi*, to which it belongs, without naturally recollecting the several words between them. Suppose we transpose the word *morituro* according to the connexion of ideas, and say, *nec quicquam tibi morituro*, &c. the effect shall be no longer the same, because there is not the same exercise of the fancy. This sort of transpositions partake of the character of the mode of speaking by action, where a single sign was oftentimes equivalent to an entire sentence.

§ 122. From this second advantage of transpositions arises a third; which is their forming a picture: I mean that they unite in a single word the circumstances of an action, in some measure as a painter unites them upon a canvas: if they presented them in succession, it would be only a plain narrative. This will be better understood by means of an example.

Nymphae flebant Daphnim extinctum funere crudeli.

† Horat. lib. 1. Od. 28.

Here is a simple narrative. I learn that the nymphs wept, that they wept for Daphnis, that Daphnis was dead, &c. Thus the circumstances succeeding each other make but a slight impresson on me. Change but the order of words, and say:

*Extinctum nymphae crudeli funere Daphnim
Flebant **

it produces quite a different effect, because having read *extinctum nymphae crudeli funere*, I am still in the dark; but at *Daphnim* I see the first stroke of the pencil, at *flebant* I see the second, and then the picture is finished. The nymphs in tears, Daphnis dying, and this death attended with every doleful circumstance, strike me all at once. Such is the power which transpositions have over the imagination.

§ 123. The last advantage I find in this sort of constructions, is that of rendering our style more precise. By accustoming the mind to refer a term to those which are at the greatest distance in the same sentence, they learn us at the same time to avoid repetitions. The French language is so improper for giving us any habit of this kind, that one would think we see the relation of two words, only as they immediately follow one another.

§ 124. If we compare the French and Latin tongues, we shall find advantages and inconveniences on both sides. Of two arrangements of ideas equally natural, the French generally speaking, admits of but one; in this respect therefore it has less

* Vir. Eccl. 5. v. 20.

variety and less harmony. It very seldom allows of those transpositions in which the connexion of ideas is altered; hence it is naturally less lively. But it makes us amends on the side of simplicity and perspicuity. It chuses such constructions as are always agreeable to the greatest connexion of ideas. Thus it gives us an early habit of preferring this connexion, it renders us naturally more precise, and gradually invests the mind with that character of clearness and simplicity, by which this language is so superior in many respects. We shall presently see*, how greatly these advantages have contributed to the progress of sound philosophy, and how much we are indemnified for the loss of a few beauties peculiar to the ancient languages. To avoid being thought to promise a paradox, I shall beg leave to observe, that we are naturally accustomed to connect our ideas according to the genius of our mother tongue, and that we acquire a greater degree of precision, in proportion to the greater share which the language itself has of it.

§ 125. The more simple the construction, the more difficult it is to be thorough master of a language. I fancy it was much easier to write in Latin than it is in French. The conjugations and declensions could, by their nature, prevent a great many inconveniencies, against which it is very difficult for us to guard. They united a large number of ideas in the same period, without any confusion; nay, it was frequently looked upon as a beauty. On the con-

* The last chapter of this section.

trary, in French we cannot be too cautious in admitting no ideas into a sentence, but such as will bear the most natural construction. We must be prodigiously attentive to avoid the ambiguities occasioned by the use of pronouns. In fine, what a number of contrivances are requisite to guard against these defects, without falling into those far-fetched turns of expression, which enervate a language? But when these obstacles are once surmounted, nothing can be more beautiful than the French construction.

§ 126. I am not however so vain as to think myself qualified to determine to every body's satisfaction the preference between the Latin and French tongues, in regard to the point treated of in this chapter. Some are pleased only with order and perspicuity, while others prefer variety and vivacity of style. On these occasions it is natural for every one to judge in regard to his own taste. For my part, I think the advantages of these two languages are so very different, that they will hardly admit of a comparison.

C H A P. XIII.

Of writing.*

§ 127. **W**HEN mankind had once acquired the art of communicating their conceptions by sounds, they began to feel the necessity of inventing new signs proper for perpetuating them, and for making them known at a distance†. Their imaginations then represented nothing more to them than those same images, which they had already expressed by gestures and words, and which from the very beginning had rendered language figurative and metaphorical. The most natural way therefore was to delineate the images of things. To express the idea of a man or of a horse, they represented

* This section was near finished, when I happened to light on an essay on hieroglyphics, extracted from the second volume of Dr. Warburton's *Divine Legation of Moses*; a work equally distinguished for strength of reasoning and variety of erudition. With pleasure I found that this author's notions and mine coincided, in supposing that language must, from its first beginning, have been very figurative and metaphorical. My own reflexions had led me to observe, that writing at first could be no more than a simple picture; but I had not as yet made any attempt to discover by what progress mankind arrived at the invention of letters, and it seemed difficult to me to succeed in the inquiry. The task has been exceedingly well executed by Dr. Warburton, of whom the greatest part of this chapter has been borrowed.

† I have accounted for this in the 7th chapter of this section.

T

the

the form of each of these animals ; so that the first essay towards writing was a mere picture.

§ 128. It is in all probability to the necessity of thus delineating our thoughts that the art of painting owes its original ; and this necessity has doubtless contributed to preserve the mode of speaking by action, as the easiest to represent by the pencil.

§ 129. Notwithstanding the inconveniencies arising from this method, the most civilized nations in America were incapable of inventing a better*. The Egyptians, a more ingenious people, were the first who made use of a shorter method, which is known by the name of hieroglyphics†. From the greater or lesser contrivance in their several methods, it appears that they did not invent letters, till they had gone through every gradation of writing.

The inconveniency arising from the enormous bulk of volumes, induced them to make use of only a single figure to signify several things. Thus it was that writing, which before that time was a

* The savages of Canada have no other.

† Hieroglyphics are distinguished into proper and symbolic. The proper are subdivided into curiologic, and tropical. The curiologic substituted a part in the place of the whole ; and the tropical represented one thing by another which had some resemblance or common analogy to it. Both these sorts were employed to divulge their knowledge. The symbolic hieroglyphics were employed to conceal ; these were also distinguished into two species, tropical and enigmatic. To frame tropic symbols, they made use of such properties of things as were least known ; and the enigmatic were composed of the mysterious assemblage of different things and of the parts of different animals. See the Divine Legation, vol. II.

simple

simple picture, became both picture and character, which is what properly constitutes the nature of hieroglyphics. Such was the first degree of perfection in this rude method of preserving ideas. They made use of three ways, which if we consult the nature of the thing, seem to have been invented gradually and at three different times. The first was to make the principal circumstance of the subject stand for the whole. Two hands, for instance, one holding a shield and the other a bow, represented a battle. The second of more ingenious contrivance, was by putting the instrument of the thing, whether real or metaphorical, for the thing itself. Thus, an eye, eminently placed, was designed to represent God's omniscience, and a sword represented a tyrant. Their third, and still more artificial method of abridging, was by making one thing stand for, or represent another, where any quaint resemblance or analogy, in the representative, could be collected from their observations of nature, or their traditional superstitions. The universe, for example, was designed by a serpent in a circle, whose variegated spots signified the stars.

§ 130. The first design of those who invented hieroglyphics, was to preserve the memory of events, and to record, openly and plainly, their laws, policies, and whatever else relates to civil matters. They were therefore very careful in the beginning to use only those figures whose analogy was most within the reach of every capacity: but this method led them into subtilties, in proportion as philosophers applied themselves to matters of speculation. As soon as they fancied they had made a discovery of

more abstruse qualities in things, some, either through singularity, or to conceal their knowledge from the vulgar, were pleased to make a character of figures, whose relation to things which they wanted to express, was not known. For some time they confined themselves to figures of natural originals: but afterwards these appeared neither numerous, nor convenient enough, for the great multitude of ideas with which their imaginations were crowded. Hence they came to form their hieroglyphics of a mysterious assemblage of different things, or of parts of different animals; which rendered them intirely enigmatical.

§ 131. At length the custom of expressing their thoughts by analogous figures, and the design of sometimes making a secret and a mystery of them, induced them to represent even the modes of substances by sensible images. Thus freedom they expressed by a hare; impurity, by a wild he-goat; impudence, by a fly; science by an ant, &c. In a word, they invented symbolical marks for every thing that is even without shape or form. On these occasions, they were satisfied with any sort of relation whatever; and it is in this very way they had already acted, upon giving names to spiritual ideas.

§ 132. “ * Hitherto the animal or thing representing was drawn out graphically; but when the study of philosophy (which had occasioned symbolic writing) had inclined their learned to write much, and variously, that exact manner of deli-

* Divine Legation, vol. II. p. 115.

“ neation

“neation would be as well too tedious as too voluminous ; they therefore by degrees perfected another character, which we may call the *running band* of hieroglyphics, resembling the Chinese writing, which being at first formed only by the outlines of each figure, became at length a kind of *marks*. One natural effect that this *running band* would in time produce, was, that its use would take off much of the attention from the symbol and fix it on the thing signified ; by which means the study of symbolic writing would be much abbreviated, there being then little to do, but to remember the power of the *symbolic mark* ; whereas before, the properties of the thing or animal, used as a symbol, were to be learnt : in a word, it would reduce this writing to the present state of the Chinese.”

§ 133. These characters having gone through so many changes, it was not an easy matter to perceive how they could be derived from a kind of writing, which at first had been no more than a mere picture. Hence it is that some learned men have been so far mistaken, as to believe that the Chinese writing did not begin in the same manner as that of the Egyptians.

§ 134. “ Thus have we brought down the general history * of writing, by a gradual and easy descent, from a picture to a letter ; for Chinese marks, which participate of the nature of Egyptian hieroglyphics on the one hand, and of letters

* Divine Legation, vol. II. p. 77.

“ on the other ; just as these hieroglyphics equally
 “ partook of that of Mexican pictures, and of the
 “ Chinese characters ; are, on the very borders of
 “ letters ; an alphabet being only a compendious
 “ abridgment of that troublesome multiplicity.”

§ 135. Notwithstanding the prodigious convenience of letters, yet the Egyptians, long after these had been invented, still preserved the use of hieroglyphics. The reason was, all their learning had been committed to this sort of writing. Having conceived a veneration for the books, they were led to respect the characters, the use of which was perpetuated by the learned of that nation. But those who were not men of science, did not think fit to continue the use of this kind of writing. The authority of the learned could only prevail upon them to look upon these characters with a reverential eye, as proper for ornamenting their public monuments, on which the use of them was still continued. Perhaps the Egyptian priests saw with pleasure that by degrees they alone should be possessed of the key of a writing, which preserved the secrets of their religion. This is what occasioned the mistake of those, who imagined that the sublimest mysteries were couched in hieroglyphics.

§ 136. “ Thus we find * how it happened that
 “ that which had its origin from necessity, came in
 “ time to be employed for secrecy, and improved
 “ for ornament. But now, in the incessant revolutions of things, this imagery, which was at first
 “ invented for clearness, and was from thence con-

* Divine Legation, vol. II. p. 143.

“verted into mystery, at length resumed its primitive employment; and, in the flourishing ages of Greece and Rome, was employed in their monuments and medals as the clearest method of conveying men’s conceits; and a symbol, which in Egypt, was pregnant with profound wisdom, was here the vocabulary of the people.”

§ 137. In process of time, language had exactly the same fate as writing. In the beginning, figures and metaphors were necessary, as we have seen, for the sake of perspicuity: we shall now inquire how they came to be changed into mysteries, afterwards to serve for ornament, and to conclude at length in the way of popular information.

C H A P. XIV.

Of the origin of fable, of parables and enigmas, with some particulars concerning the use of figures and metaphors.*

§ 138. **F**ROM what has been said it evidently appears, that at the origin of languages mankind were under a necessity of joining the mode of speaking by action to that of articulate sounds, and of conveying their thoughts by sensible images. Besides, notions the most common to us, were so refined in regard to them, that they could not be levelled to their capacities, unless they were brought

* The greatest part of this chapter is likewise taken from the second volume of the Divine Legation, part I.

down to their senses. In short, as they were strangers to the use of conjunctions, it was impossible for them as yet to reason or argue. Those who wanted, for example, to prove how beneficial a thing it is to be subject to laws, or to follow the counsels of the wise, had no simpler method than to imagine facts particularly circumstanced: the event which they rendered contrary or favourable according to the point in view, had the double advantage of instructing and persuading. This is the origin of apologue or fable. It appears that its first aim was instruction, and consequently that its subjects were borrowed from the most familiar things, whose analogy was most obvious to the senses; the scene was first laid among men, then among brutes, and soon after among plants. At length the spirit of refinement, which in all ages has had its admirers, led them into the most abstruse researches. They studied the most singular properties of beings, in order to draw delicate allusions; insomuch that fable was insensibly changed into parable, and rendered at length so mysterious as to be little better than an enigma. These enigmas obtained more generally, as the learned, or those who set up for such, thought it incumbent upon them to conceal part of their knowledge from the vulgar. By these means, language, which had been designed for perspicuity, was changed into mystery. To frame an idea of the taste of the earliest ages, we have only to take a view of people who have no tincture of learning: they are pleased with every thing that is figurative and metaphorical, let it be
never

never so obscure ; and are always sure to give it the preference.

§ 139. Another thing which also contributed to increase the figures of style, was the use of hieroglyphics. These two ways of communicating one's thoughts, must needs have influenced each other *. It was natural, when speaking of a thing, to make use of the name of the hieroglyphical figure which was its symbol, as at the origin of hieroglyphics it had been natural to paint those figures, which had been authorized by the custom of language. Hence we shall find " that as in hieroglyphical writing †, " the sun, moon, and stars were used to represent " states and empires, kings, queens, and nobility ; " their eclipse and extinction, temporary disasters or " intire overthrow ; fire and flood, desolation by " war and famine ; plants or animals, the qualities " of particular persons, &c. So in like manner " the holy prophets call kings and empires by the " names of the heavenly luminaries ; their misfortunes and overthrow are represented by eclipses and " extinction ; stars falling from the firmament are " employed to denote the destruction of the nobility ; thunder and tempestuous winds, hostile invasions ; lions, bears, leopards, goats, or high trees, leaders of armies, conquerors, and founders of empires ; royal dignity is described by " purple or a crown ; iniquity by spotted garments ;

* See in Dr. Warburton's *Divine Legation*, vol. II. part 1. the ingenious parallel he draws between apologue, parable, enigma, figures and metaphors on the one side, and the different species of writing on the other.

† *Divine Legation*, vol. II. p. 153.

" error

“ error and misery by an intoxicating draught ; a warrior by sword or bow ; a powerful man by gigantic stature ; and a judge by balance, weights, and measures : in a word, the prophetic style seems to be a speaking hieroglyphic.”

§ 140. In proportion as writing became more simple, style became the same. By forgetting the signification of hieroglyphics, they insensibly lost the use of a great many figures and metaphors : but to render this change sensible, was the work of ages. The style of the ancient Asiatic authors was extremely figurative ; even in Greek and Latin we meet with marks of the influence of hieroglyphics on language * ; and the Chinese who still make use of a character in some measure hieroglyphical, overload their discourse with allegories, comparisons and metaphors.

§ 141. After all these revolutions, figures were at length employed for the embellishment of speech, when mankind had acquired so exact and extensive a knowledge of the arts and sciences, as to draw images from thence, which without being in the least prejudicial to perspicuity, had all the grace, and sublimity, that the subject required. In the subsequent revolutions of languages, they must certainly have greatly suffered. Their decline may be dated even from those very times, in which they seem to lay claim to the most striking beauties. We see figures and metaphors heaped upon one another, and the style overloaded with ornaments, whilst essen-

* *Annus*, for example, comes from *annulus*, because the year revolves upon itself.

tials are neglected. When this critical time comes, there may be a possibility perhaps of retarding, but not of absolutely preventing the decline of a language. In morals, as in physics, there is an utmost period of increase, after which, things must tend to dissolution.

Thus it is that figures and metaphors, which in the beginning had been invented through necessity, and afterwards were applied to the purposes of mystery, are become an ornament to discourse, when used with judgment and discretion; and thus it is that by the abuses made of them, they have been the first and principal cause of the decline of languages.

CHAP. XV.

Of the character of languages.

§ 142. **T**O form the character of a people two things contribute, climate and government. From the climate arises a greater degree of vivacity or of phlegm; and of course a disposition to one form of government preferably to another. But these dispositions are changed by a thousand circumstances. The sterility, fruitfulness, or situation of a country; the respective interests of the inhabitants compared to those of their neighbours; the restless spirits who disturb it, while the government is not yet settled on a solid basis; the extraordinary men whose superior abilities eclipse those of their fellow citizens; these and several other causes contribute

contribute to alter, and even sometimes intirely to destroy the first propensities which a nation derives from its climate. The character therefore of a people undergoes very near the same changes as their government; nor does it fix, till the latter has received a settled form.

§ 143. As government influences the character of a people, so the character of a people influences that of language. It is natural for men incessantly pressed by wants, and agitated by passions, not to speak of things without mentioning how far these things concern them. They are obliged insensibly to connect the words with adventitious ideas expressing the manner in which they are affected, and the judgments they frame. This is an easy observation; for there are very few whose conversation does not at length disclose their real character, even at the very time when they endeavour most to conceal it. We need only to have a short acquaintance with a person, in order to learn his language: I say, *his language*, for every man according to his passions has a particular one of his own: I except only such as are of a cold and phlegmatic constitution; who indeed more readily conform to the language of others, and whose character of course it is much more difficult to discover.

The character of a nation is still more easily seen into, than that of individuals. A multitude cannot act in joint concert to conceal their passions. Besides, we never dream of making a mystery of our inclinations, when they are common to the rest of our countrymen. On the contrary we boast of them, and are pleased at their being looked upon as
cha-

characteristics of a country, to which we owe our birth, and in favour of which we are naturally prejudiced. Upon the whole therefore it appears that every language expresses the character of the people that speak it.

§ 144. In Latin, for example, the terms of agriculture, imply an idea of dignity and grandeur, which they do not in French; the reason of this is obvious. When the Romans laid the foundation of their empire, their knowledge was as yet confined to the necessary arts: these they valued so much the more, as it behoved every member of the republic to make them his study; so that they were early accustomed to look upon agriculture, and the general who ploughed his own lands, with the same eye of favour and esteem. Hence the terms of this art acquired such adventitious ideas as implied both dignity and grandeur. They continued to preserve them, when the Roman republic was fallen into the greatest excess of luxury; for the character of a language, especially if ascertained by celebrated writers, does not change so easily as the manners of a people. With regard to the French nation, they have had quite a different turn of mind, since the establishment of the monarchy. As the Franks entertained a high esteem for the military profession, to which they were indebted for a potent empire, it was natural for them to despise those arts which they were not obliged to cultivate in person, but committed to the care of their slaves. From that time the adventitious ideas annexed to the terms of agriculture, must have been very different from those which they had in the Latin tongue.

§ 145. Though the character of languages is originally formed from that of the people, yet it is not perfected without the assistance of eminent writers. But to trace its progress, we should resolve two questions, which have been often discussed, and never, I think, rightly decided. It is to know the reason why the arts and sciences do not flourish alike in all ages and in all countries; and why men of eminence in every kind are generally cotemporaries. There are writers who have found an answer to both these questions in the difference of climates. If some nations are strangers to the arts and sciences, these writers pretend that the climate is the real cause of it; and if there are others in which the culture of those arts and sciences is now neglected, they again pretend that this is owing to a change in the climate. But it is idle to suppose any such sudden and extraordinary change, equal to the revolutions of the arts and sciences. The climate influences nothing more than the organs; let it be never so favourable, it can be productive only of machines better organized, and probably in all ages it produces very near an equal number. If it were every-where the same, still the same variety would appear in different people; some, as at present, would be famed for learning, and others would be involved in ignorance. Hence there must be particular circumstances, by means of which, men of a delicate organization shall have an opportunity of applying themselves to proper subjects, and of displaying their talents. Otherwise they would resemble those automata of a most curious contrivance, which are suffered to run to ruin, for want of knowing their mechanism, or how to set

see the springs a-going. The climate is not therefore the cause of the progress of the arts and sciences; it is required only as an essential condition.

§ 146. The circumstances favourable to the displaying of talents, are always to be found in a nation; when the language begins to have fixed principles and a settled standard: such a period is therefore the epocha of great men. This is an observation confirmed by the history of the arts, but I shall give a reason for it, drawn from the very nature of the thing.

The first turns of expression introduced into a language, are neither very clear, precise, nor elegant: nothing but time and experience can direct men in this choice. Languages formed of the ruins of several others, meet with very great obstacles which retard their progress. As they have borrowed something from each, they are only a confused heap of heterogeneous expressions. They have not that analogy, which affords light to writers, and characterises a language. Such was the French at its first establishment. This is the reason why it was so long before we wrote in our mother tongue, and why those who made the first essay, could not give any settled character to their style.

§ 147. If we recollect that the habit of the imagination and memory depends intirely on the connexion of ideas, and that the latter is formed by the relation and analogy of signs*; we shall be convinced that the less a language abounds in analogous expressions, the less assistance it gives to the

* First part, sect. 2. c. 3. and 4.

memory and the imagination. Therefore it is not at all proper for the exertion or display of talents. It is with languages as with geometrical signs; they give a new insight into things, and dilate the mind in proportion as they are more perfect. Sir Isaac Newton's extraordinary success was owing to the choice which had been already made of signs, together with the contrivance of methods of calculation. Had he appeared earlier, he might have been a great man for the age he would have lived in, but he would not have been the admiration of ours. It is the same in every other branch of learning. The success of geniuses who have had the happiness even of the best organization, depends intirely on the progress of the language in regard to the age in which they live; for words answer to geometrical signs, and the manner of using them to methods of calculation. In a language therefore defective in words, or whose construction is not sufficiently easy and convenient, we should meet with the same obstacles as occurred in geometry before the invention of algebra. The French tongue was for a long time so unfavourable to the progress of the mind, that if we could frame an idea of Corneille successively in the different ages of our monarchy, we should find him to have been possessed of less genius in proportion to his greater distance from the age in which he lived, till at length we should reach a Corneille who could not give the least mark of abilities.

§ 148. Perhaps some will object that men of such genius as this great poet, might have borrowed of the learned languages that assistance which they could not receive from their mother tongue.

I answer

I answer that people having been accustomed to conceive things as expressed in the language which they had learnt from their infancy, their minds must have been naturally confined. They could not be offended with the want of precision, because they had habituated themselves to it: consequently they were not as yet capable of deriving such assistance from the learned languages. And indeed if we trace things up from age to age, we shall find that the badness of our Latin style has been always in proportion to that of our mother tongue; for we did not begin to write good Latin, till we had learnt to write good French. Besides, it would be shewing very little knowledge of the genius of languages, to imagine that the advantages of those which are reckoned the most perfect, could be suddenly communicated to the most imperfect: this must be the work of time. Marot understood Latin; and yet how comes it that he had not the same equality of style as his imitator Rousseau? merely for this reason, because the French tongue was not at that time sufficiently improved. Rousseau, perhaps with less abilities, has given a more equal character to the Marotic style, because he made his appearance under more favourable circumstances; had he come a century sooner, he would not have succeeded. The comparison that may be drawn between Regnier and Despreaux, will further corroborate this argument.

§ 149. The progress must be a great deal more rapid, in a language not formed upon the ruin of others; because it has a character from its original:

U

this

this is the reason why Greece was so early distinguished for excellent writers.

§ 150. Let us suppose a person of the most complete organization to start up of a sudden among a people, who though inhabiting a climate favourable to the arts and sciences, are as yet in a state of barbarism: I apprehend that he may become a genius in regard to those people; but we plainly see that it is impossible for him to equal some of the eminent writers of the age of Lewis XIV. When we view the thing in this light, it is so plain and clear as not to admit of the least doubt.

If the language of these rude and ignorant people obstructs the progress of the mind, let us give it one degree of perfection, nay let us give it two, three, or four; the obstacle shall still continue, nor can it diminish, but in proportion to the degrees of perfection added to that language. Therefore it will not be intirely removed, till the language has acquired very near as many degrees of perfection, as ours had, when it first began to furnish us with good writers. Consequently, it is demonstrable that there can be no such thing as a superior genius, till the language of a nation has been considerably improved.

§ 151. The causes which contribute to the display of abilities are as follow. 1°. The climate is an essential condition. 2°. It is requisite that the form of government be settled, so as to fix the character of a nation. 3°. It is this that gives a character to the language by multiplying such phrases as express the prevailing taste of a people. 4°. This is brought about very slowly in languages formed upon

upon the ruin of others : but when once these obstacles are surmounted, then the rules of analogy are established, the language makes some improvements, and there is an opportunity to display one's abilities. We see therefore the reason why great writers do not indifferently flourish in all ages, and why they make their appearance sooner in some, and later in other countries. It remains now for us to inquire how it happens that great men of every kind are generally cotemporaries.

§ 152. As soon as a man of genius discovers the character of a language, he expresses it strongly in his writings. With this assistance other ingenious persons, who would not perhaps have been able to find it out of themselves, see it very plain, and express it after his example, each in his own way. The language is insensibly enriched with a multitude of new turns of expressions, which from the relation they bear to its character, enlarge it more and more, and analogy becomes as it were a lamp, whose light continually increases, to direct a greater number of writers. Then the public eye is naturally fixed on those who distinguish themselves from the crowd : the taste of these becomes the prevailing taste of the nation : each person in the several subjects to which he applies himself, uses that discernment which he learnt of those ingenious persons : abilities begin to ferment : the several arts assume their proper character ; and men of superior merit in every branch of learning make their appearance. Thus it is that great parts, of what kind soever, do not shew themselves till a language is considerably improved. This is so very true, that though such circumstances as favour the mil-

literary and political arts, occur the most frequent, yet it is those ages which have been distinguished for great writers, that are able to boast of generals and ministers of a superior rank. Such is the influence of letters over government; an influence whose full extent does not seem as yet to have been rightly understood.

§ 153. If the display of great abilities is owing to the sensible improvements already made in a language, on the other hand the latter is indebted to men of abilities for new improvements, which raise it to its highest pitch of perfection: this is what I shall briefly explain.

Though it be true that great men partake, in some sense or other, of the character of their nation, yet they have still something that distinguishes them from the crowd. They see and feel in a manner peculiar to themselves, which they cannot communicate, without inventing new turns of expression within the rules of analogy, or at least so as to deviate from them as little as possible. Hence they conform to the character of their language, to which at the same time they communicate their own. Corneille develops the interests of grandees, the policy of ambitious men, and in a word all the movements of the soul, with a dignity and force peculiar to himself. Racine expresses love, its fears, and transports, with a sweetness and elegance which form the characteristic of the gentler passions. The pencil with which Quinault draws his pictures of pleasure and voluptu, is directed by softness: and several other writers, who are no more, or who are distinguished among the moderns, have each a character which
the

the French language has gradually appropriated to itself. Our first, and perhaps greatest obligation, is owing to our poets; for as they are subject to the restraint of rules, their imagination makes stronger efforts, and necessarily produces new turns of expression. And indeed the sudden improvement of a language is generally the æra of some eminent poet. Philosophers do not carry it to perfection till a long time after: they have indeed given to ours that precision and perspicuity which form its characteristic, and which by furnishing us with the signs most convenient for analyzing our ideas, enable us to discern the subtlest and minutest part of every object.

§ 154. Philosophers ascending to the reason of things, lay down the rules of arts, explain the most abstruse branches, and by their writings increase the number of good judges. But if we consider the arts where they seem to require a greater exertion of fancy, we shall find that philosophy does not contribute to improve these as it does the sciences; on the contrary, it seems to hurt them. This is because the fire of imagination is damped, partly by the attention given to the rules, and partly by the apprehension of seeming not to know them: for this is an operation that chuses rather to be directed by sensation, and by a lively impression of the objects, than by a reflexion which combines and calculates every thing.

True it is that the knowledge of rules may be of service to those who, from too great a luxuriancy of fancy, are apt to lose sight of them when they are composing, and recollect them only in revising

their performances. But it is very difficult for persons conscious of the least weakness, not to be glad to accept of the assistance of rules. And yet can we expect to succeed in works of fancy, if we know not how to act without such assistance? Ought we not at least to be mistrustful of our productions? In general, the age wherein philosophers deliver the precepts of the several arts, is that which abounds with the best writers, though it does not indeed produce so many ingenious artists.

§ 155. Since the character of languages is formed insensibly, and according to that of the people, it must needs have some prevailing quality: consequently it is impossible that the same advantages should be common in the same proportion to many. The most perfect is that which unites them in such a degree, as does not exclude their compatibility: for it would doubtless be a defect in a language, to excel so greatly in one kind, as to be quite unfit for others. Perhaps the character which the French language shews in the works of Quinault and la Fontaine, is a proof that we shall never have a poet of equal strength of genius with Milton; and that the strength of genius which appears in *Paradise Lost*, is a proof that the English will never have a poet equal to Quinault and la Fontaine*.

§ 156. Analysis and imagination are two operations so different, that they generally obstruct the progress of each other. There is only one expedient that can render them mutually serviceable, and this is

* The author ventures to give this conjecture from what he has heard of Milton's poem: for he does not understand English.

what I have already had occasion to make mention †. It is therefore extremely difficult for the same languages equally to favour the habit of both these operations. The French, by the simplicity and clearness of its construction, gives an early precision to the mind, which by degrees becomes habitual, and is greatly preparatory to the analytical progress; but it is not favourable to the imagination. On the contrary, the transpositions of the ancient languages were an obstruction to the analytic method, in proportion as they contributed more to improve the fancy, and thereby rendered the habit of it more natural than that of the other operations of the mind. This is, I think, one of the causes of the superiority of modern philosophers to those of antiquity. A language so exact as the French in its choice of figures and expressions, ought surely to be more so in the argumentative way.

In order to fix our ideas, we ought to imagine two languages; one which should exercise the fancy, to such a degree, that the people who spoke it must be perpetually blundering: the other, which on the contrary should cause such an exercise of the analytic method, that those to whom it was natural should conduct themselves even in their pleasures, like mathematicians investigating the solution of a problem. Between these two extremes we might represent to our minds all the languages possible, we might see them assuming different characters according to the extremity to which they approached, and indemnifying themselves for the advantages lost on the one

† First part, page 50.

side, by those which they acquired on the other. The most perfect should take possession of the middle, and those who spoke it would be a great people.

Here it will be objected, that if the character of languages is a reason of the superiority of modern over ancient philosophers, does it not in consequence follow that the ancient poets are superior to the moderns? I answer no: the analytic method borrows no assistance except from language; therefore it cannot take place but as it is favoured by language: we have seen on the contrary that the causes which contribute to the progress of the imagination are far more extensive; every thing tends to promote the habit of this operation. Though the Greeks and Romans may have had some poets superior to ours in particular branches, yet we have some superior to theirs in others. What poet of all antiquity can be compared to Corneille or to Moliere?

§ 157. The simplest way to judge which language excels in most branches, would be to reckon the original authors in each. I am afraid that ours would have in this respect some disadvantage.

§ 158. After having shewn the causes of the last improvements of language, it will be proper to inquire into those of its decline: they are indeed the same, and produce such contrary effects only from the nature of circumstances. It is nearly the same here as in physics, where motion, the source of life, becomes the principle of destruction.

When a language abounds with original writers in every kind, the more a person is endowed with abilities, the more difficult he thinks it will be to surpass

surpass them. A mere equality would not satisfy his ambition; like them he wants the pre-eminence. He therefore tries a new road. But as every style analogous to the character of the language, and to his own, hath been already used by preceding writers, he has nothing left but to deviate from analogy. Thus in order to be an original, he is obliged to contribute to the ruin of a language, which a century sooner he would have helped to improve.

§ 159. Though such writers may be criticised, their superior abilities must still command success. The ease there is in copying their defects, soon persuades men of indifferent capacities, that they shall acquire the same degree of reputation. Then begins the reign of subtil and strained conceits, of affected antitheses, of specious paradoxes, of frivolous and far-fetched expressions, of new-fangled words, and in short of the jargon of persons whose understandings have been debauched by bad metaphysics. The public applauds: foolish and ridiculous writings, the beings of a day, are surprisingly multiplied; a vicious taste infects the arts and sciences, which is followed by a visible decrease of men of abilities.

§ 160. I do not in the least doubt but I shall be contradicted in what I have advanced concerning the character of articulate sounds. I have frequently met with persons who look upon all languages as equally adapted for all kinds of writing, and who pretend that a man with the same organization as Corneille, in whatever age he lived, and in whatever tongue he wrote, would have given the same proofs of his superiority of genius.

Signs are arbitrary the first time they are employed, which is the reason perhaps that some imagine they can have no character. But I would fain know whether it be not natural for every nation to combine their ideas according to their own peculiar genius; and to connect a certain fund of principal ideas with different adventitious notions, according as they are differently affected. Now these combinations authorized by time and custom, are properly what constitutes the character of a language. It may be more or less diffused; for this depends on the number and variety of the expressions received, and on its analogy, which affords the means of inventing new phrases when wanted. But it is not in the power of man intirely to change this character. As soon as he departs from it, he speaks a foreign tongue, and ceases to be understood. It is the work of time to produce such considerable changes, by reducing a whole nation to such circumstances as shall engage them to consider things in quite a different light.

§ 161. It is in the writings of poets, that the character of a language is most strongly painted. Hence arises the difficulty of translating those writings; a difficulty so great, that men of abilities oftentimes find it easier to surpass than to equal them. And indeed one might in strict truth affirm, that it is impossible to make a good poetical translation: for the reasons which prove that two languages cannot have the same character, prove likewise that the same thoughts can be seldom expressed in both with the same beauties.

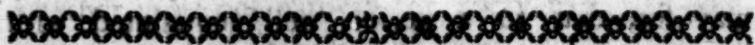
When I was speaking of prosody and transpositions,
I men-

I mentioned something relative to the subject handled in this chapter, which it is needless here to repeat.

§ 162. From this historical account every body may see, that to a person well acquainted with languages, they are a picture of the character and genius of every nation. He may see in what manner the imagination first made a combination of ideas from prejudice and passion: he may see how a different spirit arose in every nation, in proportion as they had less communication with each other. But if the manners of a people influenced language, the latter, as soon as its rules were ascertained by celebrated writers, had in its turn an influence on manners, and for a long time preserved to each people their peculiar characteristics.

§ 163. Some perhaps will look upon this whole history as a romance: but they cannot at least deny its probability. I do not conceive that I have been often led astray by the method here pursued: for my aim has been to advance nothing but upon a supposition, that every language has been formed after the pattern that immediately preceded it. In the mode of speaking by action we have beheld the blossom, as it were, of articulate sounds, and of the several contrivances that may be used to express our thoughts: we have observed the circumstances proper for ripening this blossom; and we have not only perceived these arts to rise from thence, but we have likewise traced their progress, and explained their different characters. In a word we seem to have plainly demonstrated, that those things which to us appear so extremely singular, were most natural in their time, and that
nothing

nothing has happened but what we had reason to expect.



SECTION II.

Of method.

FROM the knowledge we have acquired of the operations of the mind, and of the causes of their progress, we are now to learn the conduct which ought to be observed in the investigation of truth. Before this it was impossible to frame a good method; but now it seems to present itself, and to be a natural consequence of our researches. It will suffice to develop some of the reflexions dispersed throughout this work.

CHAP. I.

Of the first Cause of error, and of the origin of truth.

§ 1. **A** Great many philosophers have very eloquently exposed a multitude of errors, which are attributed to the senses, to the imagination, and the passions: but they cannot flatter themselves with having reaped all the benefit they expected from their performances. The imperfection of their theory renders it of very little use. The imagination and the passions take such a variety of

of turns, and depend so strongly on constitution, time, and circumstances, that it is impossible to discover the several springs which they employ, and it is natural for each person to flatter himself that he is not of the number of those on whom they have imposed.

Like a person of a weak constitution, who as soon as recovered from one illness immediately falls into another, the mind, instead of quitting, oftentimes only changes its errors. To cure the former of all his ailments, would require him to be new moulded: in like manner to recover the latter from all its weaknesses, would require a new stock of ideas, and instead of losing time about each particular complaint, we should endeavour to remove the original cause.

§ 2. This cause we shall find to be the habitude of reasoning on things, of which we have either no ideas at all, or such as are but very indeterminate. It is proper to inquire into the source of this habitude, in order to make a thorough discovery of the origin of error, and to know with what preparation we ought to undertake the study of philosophy.

§ 3. While we are yet in the state of childhood, and incapable of reflexion, we are intirely employed about our wants. The objects in the mean time make deep impressions on us, as they meet with no resistance. The organs are perfected by very slow degrees, reason advances still more slowly, and we fill our heads with such ideas and maxims as chance and education offer. When we come to an age in which the mind begins to arrange its thoughts, we continue to see only those things with which we have been long acquainted.

acquainted. Hence we make no difficulty to believe that they exist, and are of such a nature, because it appears natural to us that they should exist, and be of such a nature. They are so strongly imprinted in our brain, that we cannot think they do not exist, or that they exist in a different manner. Hence arises that indifference about knowing things to which we are accustomed, and those emotions of curiosity for every thing that has the appearance of novelty.

§ 4. When we begin to reflect, we do not perceive in what manner the ideas and maxims, which we find in our minds, could be introduced there; nor do we recollect that we were ever without them: consequently we enjoy them in full security. How defective soever they be, we take them for self-evident notices; we give them the name of *reason*, of *light*, of *nature*, of *innate*, of *principles ingrafted, and imprinted on the mind*. We rely so much the more willingly on these ideas, as we think, that if they led us astray, God would be the cause of error, because we consider them as the only means he has given us to arrive at the truth. Thus it is that being familiarly acquainted with some particular ideas, we fancy them to be principles of the utmost evidence.

§ 5. What accustoms us to this inaccuracy, is the manner in which we form ourselves to language. We do not arrive at the age of reason, till long after we have contracted the habit of speech. Excepting words assigned to the discovery of our wants, it is generally owing to chance that we have had occasion to hear some sounds rather than others, and it is chance also that has determined the ideas we have annexed to them. If on reflecting but ever so little on the children we see, we were to recollect the state through

through which we ourselves have passed, it would convince us that there can be nothing more inaccurate than the common use we make of words. This is not at all surprizing. We heard some expressions, whose signification, though determined by custom, was so complex, that we had neither experience nor sagacity sufficient to apprehend it: others we heard, which never conveyed twice the same idea, or which were even void of all sense. To judge of the incapacity we were under of using them with discernment, we have only to take notice of the frequent difficulty we find even at present of doing it.

§ 6. And yet the custom of joining signs to things was become so natural to us, when we were not as yet in a condition of estimating their value, that we have used ourselves to refer the names even to the reality of the objects, believing they perfectly explained their essence. We came to imagine that there are innate ideas, because some of them are the same in all men: we should have certainly judged that our language is innate, if we had not known that other nations speak quite differently. It seems that in all our inquiries our chief endeavour is to find new expressions, which as soon as we have compassed, we fancy ourselves to have acquired new knowledge. We are easily persuaded by self-love, that we have a real knowledge of things, when we have long endeavoured to know them, and have long made them the subject of conversation.

§ 7. By tracing human error to the source here mentioned, we reduce it to one single cause, and such a cause that we cannot honestly deny but it has had a considerable share in our judgments. Perhaps

we might oblige even the most prejudiced philosophers to own that it has laid the first foundation of their systems: we need only to ask the question in a proper manner. And indeed if our passions are the occasion of error, it is because they abuse a vague principle, a metaphorical expression, or an equivocal term, to make applications from which we may deduce such opinions as flatter us. If we are mistaken, those vague principles, those metaphors, and those equivocal terms, are therefore causes prior to our passions. Consequently, to detect the whole artifice, it will be sufficient to lay aside this empty language.

§ 8. If error owes its original to the defect of ideas, or to ideas not properly determined, truth must arise from determinate ideas. Of this we have a proof in mathematics. On whatsoever subject we happen to have accurate ideas, they will always be sufficient to make us distinguish the truth: on the contrary, if we have no such ideas, in vain will it be for us to take all the precaution imaginable, we shall only confound every thing. In a word, in metaphysics we might proceed on sure ground with determinate ideas, and without them we should be lost even in arithmetic.

§ 9. But how come arithmeticians to have such accurate ideas? because knowing in what manner they are framed, they are always able to compound or decompound them, in order to compare them according to their relations. It is by reflecting on the formation of numbers, that they have found out the rules of combinations. Such as have not made this reflexion, may calculate as exactly as others

others, because the rules are sure; but not knowing the reasons on which they are founded, they have no idea of what they are about, and are consequently incapable of discovering new rules.

§ 10. Now in all sciences whatsoever, as well as in arithmetic, the only way to come at the truth is by compounding and decomposing. If we do not generally reason on those sciences with the same precision, it is because we have not as yet found out sure rules for being always exact in compounding or decomposing our ideas, which proceeds from our not knowing how to determine them. But perhaps the reflexions we have made on the origin of human knowledge, will furnish us with the means of supplying this defect.

CHAP. II.

Of the manner of determining ideas, or their names.

§ 11. **I**T is a received opinion, that words ought to be understood according to the common acceptation. And indeed one would at first imagine there is no other way of making ourselves understood, than by speaking like other people. And yet I cannot help thinking that we ought to pursue a different method. As I have already observed that to attain to any real knowledge we should begin with studying the sciences anew, without being swayed by any prejudices whatsoever in favour of received opinions; so I apprehend that if we have

any design of rendering a language exact, we ought to reform it without regard to use or custom. Not that I would make it a law always to connect terms with ideas quite different from those which they commonly signify: this would be a puerile and ridiculous affectation. There is a constant and uniform practice in regard to the names of simple ideas; and as to those of several notions which are familiar to the generality of people, we must make no change in them: but when we come to complex ideas, which more particularly belong to metaphysics and morals, nothing is more arbitrary, and oftentimes more capricious. Hence I have been induced to believe, that to render a language clear and precise, it would be requisite to take the materials of our knowledge once more in hand, and to frame new combinations of them, without any regard to those already made.

§ 12. In examining the progression of languages, we have seen that custom fixes the meaning of words, merely by the circumstances in which we speak *. One would think indeed that it is mere chance which disposes of these circumstances: but if we knew how to chuse them ourselves, we might be able to perform on every occasion what chance makes us do only now and then, that is, exactly to determine the signification of words. The precision of a language must be preserved by the same means by which it was first acquired. We ought therefore to begin with placing ourselves in some sensible circumstances, in order to frame signs for expressing the ideas we first

* Second part, § 1. c. 9.

acquired by sensation and reflexion; and when by reflecting on these, we come to have new ideas, we should invent new names with a determinate signification, by placing others in the same circumstances as we ourselves have been, and making them reflect in the very same manner as we have done. Then the expressions would perpetually succeed the ideas; consequently they would be clear and precise, since they would only signify what every body had experienced.

§ 13. And indeed if a man was to begin with framing a language, and determined not to enter into any conversation, till he had fixed the meaning of his words by particular circumstances, he would not fall into those mistakes to which we are so generally subject. The names of simple ideas would be clear, because they would signify only what he perceived in particular circumstances: the names of complex ideas would be precise, because they would include only such simple ideas as by particular circumstances would be collected in a determinate manner. In a word, if he wanted to add to, or retrench from his first combinations, the signs he made use of, would preserve the clearness of the former, provided that what he added or retrenched was marked by new circumstances. If he had afterwards a mind to converse with others, he would have occasion only to place them in the same situation as he himself had been, when he invented the signs, which would engage them to affix the same ideas as he had done to the words.

§ 14. When I speak however of framing words, I do not mean that we should propose quite new terms. Those authorized by custom appear to me

generally sufficient for conversing on all sorts of subjects. It would be even prejudicing the perspicuity of language, if we were to invent words without any necessity, especially in the sciences. I therefore make use of this way of speaking, because I would not advise any one to begin with explaining terms, in order afterwards to define them, as is generally practised: but, after having placed ourselves in circumstances in which we felt or saw some object or other, we should give to that object a name authorized by custom. This is an expedient that seems natural enough, and proper moreover for expressing the difference that appears between the manner in which I would have the signification of words to be determined, and the definitions of philosophers.

§ 15. I believe it would be of no manner of use to constrain one's self by employing only such terms as are adopted by the learned; perhaps it would be better to borrow them from the common language. The one is not more accurate than the other; yet I find in the latter one imperfection less. It is that the generality of people not having reflected on the objects of the sciences, are easily convinced of their ignorance, and of the inaccuracy with which they make use of words. But philosophers, ever ashamed of having meditated to no purpose, are blindly prejudiced in favour of the pretended fruit of their studies.

§ 16. The better to comprehend this method, we must enter into further particulars, and apply to different ideas what we have been explaining in a
general

Sect. 2. HUMAN KNOWLEDGE. 309

general manner. Let us, therefore begin with the names of simple ideas.

The obscurity and confusion of words proceeds from our giving them either too unlimited or too limited an extent, or even from our making use of them without any idea at all. There are a great many whose signification we do not comprehend intire ; but we take it only in part, and even increase or diminish it : from whence it happens that different combinations are formed, which have only the same sign, and that the same words, though spoken by the same person, have very different acceptations. Besides, as the study of languages, however slightly performed, still requires some reflexion, we cut short, and refer the signs to realities, of which we have no idea. Such are, in the language of many philosophers, the terms *being, substance, essence, &c.* It is evident that these defects can be attributed only to those ideas which are the workmanship of the mind. As to the signification of the names of simple ideas, which proceed immediately from the senses, it is known at once; nor can it have any imaginary realities for its object, because it is immediately referred to simple perceptions, which are in the mind such indeed as they appear there to be. This kind of terms cannot therefore be obscure. Their meaning is so well expressed by the several circumstances in which we naturally find ourselves, that the very children cannot mistake them. For if they have but learnt a little to prattle, they are sure not to confound the names of sensations, and they have as clear ideas of these words, *white, black, red, motion, rest, pleasure, pain*, as we ourselves. With regard to the opera-

tions of the mind, they distinguish the names of them with the same ease, provided these are simple, and the reflexion of the children be turned that way by particular circumstances: for we see from the use they make of these words, *yes, no, I will, I will not*, that they take their right meaning.

§ 17. Some perhaps will object, that it is demonstrable the same objects produce different sensations in different persons, that we do not see them under the same ideas of magnitude, that we do not perceive them to have the same colours, &c,

My answer is, that notwithstanding all this we shall still understand one another sufficiently in regard to the end we propose in metaphysics and moral philosophy. As to the latter, there is no necessity, for instance, of our being sure that the same chastisements are productive of the same sensations of pain in regard to all mankind, or that the same rewards are attended with the same sensations of pleasure. How great soever the variety with which the causes of pleasure and pain affect men of different constitutions, it is sufficient that the meaning of these words, *pleasure* and *pain*, is so well fixed, that no body can mistake it. Now the daily circumstances of our lives, do not permit us to be mistaken in the use which we are obliged to make of these terms.

In relation to metaphysics it is sufficient that the sensations represent extension, figure, and colours. The difference between the sensations of two men, can occasion no confusion. If, for instance, what I call *blue*, constantly appears to me what others call *green*, and what I call *green* constantly appears to
me

me what others call *blue*; we shall understand one another as well, when we say, *the meadows are green, the sky is blue*, as if we had all the same sensations concerning those objects. This is because we mean then to say nothing more, than that we have acquired a knowledge of the sky and the meadows under appearances which enter the mind by the sight, and which we call *blue* and *green*. If we wanted to make these words signify that we have exactly the same sensations, these propositions would not become obscure; but they would be false, or at least we should not have sufficient grounds to look upon them as certain.

§ 18. We may therefore conclude, that the names of simple ideas, as well those of sensations as of the operations of the mind, may be very easily determined by circumstances; since they are already determined so exactly, that even children cannot mistake them. A philosopher, in treating of sensations, ought only to avoid two mistakes, to which our precipitate judgments render us subject: the one is to believe that the sensations are in the objects; the other is that now mentioned, viz. that the same objects produce the same sensations in all mankind.

§ 19. When once the terms signifying the simple ideas are exact, nothing can hinder us from determining those which belong to the other ideas. For this end it is sufficient to fix the number and quality of those simple ideas, of which a complex notion may be framed. The cause of our meeting with so many difficulties, on these occasions, in ascertaining the meaning of words, and that after having taken a

great deal of pains we are still obliged to leave them very equivocal and obscure ; is our taking the words just as we find them in common use, to which we want to conform. Moral philosophy especially affords such a number of compound expressions, and the use or custom which we consult, agrees so little with itself, that it is impossible but this method must make us speak inaccurately, and fall into a great many contradictions. A person, that was to apply himself at first to the consideration of none but simple ideas, and collected them by signs only in proportion as they grew familiar to him, would not surely be exposed to the same danger. The most compound words which he would have occasion to use, must have always a determinate signification, because by chusing the simple ideas which he wanted to affix to them, and whose number he took care to determine, he would confine the meaning of each to exact bounds.

§ 20. But unless we renounce the vain science of those who refer words to realities which they know nothing of, it will avail us but little to think of precision of language. The reason of arithmetic's being demonstrable in all its parts, is because we have an exact idea of a unit, and by means of the art with which we make use of signs, we determine how often a unit is added to itself in the most compound numbers. In other sciences they would fain by vague and obscure expressions, reason on complex ideas, and discover their relations. To be convinced of the unreasonableness of this conduct, we have only to think in what situation we should be, if men could have thrown arithmetic
into

into the same confusion as that which now prevails in metaphysics and moral philosophy.

§ 21. Complex ideas are the workmanship of the mind: if they are defective, it is because we framed them ill: the only way to mend them, is to frame them anew. We must therefore take the materials of knowledge again in hand, and set about them as if we had never employed them before. For this purpose, it will be of service in the beginning to affix to sounds, as few simple ideas as possibly we can; to chuse such as every body may perceive without difficulty, by placing themselves in the same circumstances as we; and to add no new ones, till the first are grown familiar to us, and that we find ourselves in such circumstances as are adapted for conveying them clearly and precisely to the mind. By these means we shall accustom ourselves to join words to all sorts of simple ideas, be they never so numerous.

The connexion of ideas with signs, is a habit we cannot suddenly contract, especially if it gives rise to very complex notions. It is late before children come to have any accurate idea of the numbers 1000, 10,000, &c. They cannot acquire it but by long and frequent practice, which learns them to multiply a unit, and to determine each collection by particular names. In like manner, among the great number of complex ideas belonging to metaphysics and moral philosophy, it would be impossible for us to give any exactness to our terms, if we should want, the very first time and without any other precaution, to load them with simple ideas. We should sometimes happen to take them in one sense and sometimes in another,
because

because having imprinted the collections of ideas in a very superficial manner in our minds, we should oftentimes add or diminish, without perceiving it. But if we began with affixing only a few ideas to words, and proceeded to the larger collections in very great order, we should use ourselves to render our ideas still more complex, without making them less determinate and certain.

§ 22. This is the method I chose to follow, especially in the third section of this work. I have not begun with explaining the names of the operations of the mind, in order afterwards to define them; but I took care to place myself in such circumstances as were best adapted for making me observe their progression; and in proportion as I framed such ideas as made any addition to those which had gone before, I fixed them by particular names, conforming herein to custom so often as I could do it without inconveniency.

§ 23. There are two sorts of complex ideas; the one we frame from patterns; the others are particular combinations of simple ideas which the mind makes by its own choice.

It would be proposing to ourselves a quite useless and even dangerous method, to want to frame ideas of substances by an arbitrary assemblage of some simple ideas. This would be representing substances to ourselves that had no real existence; would be collecting properties that were no-where to be found together; would be separating those which were united; and it would be a very great hazard, if they were sometimes conformable to their patterns. To render therefore the names of substances clear
and

Sect. 2. HUMAN KNOWLEDGE. 315

and exact, we must consult nature, and never let them signify more than those simple ideas which we observe to exist together.

§ 24. There are likewise some other ideas which belong to substances and are called abstract. I have already observed that these are only particular notions, more or less simple, to which we give our whole attention, by ceasing to think on the other simple ideas which coexist with them. Let us cease to think on the substance of bodies as having actual colour and figure, and consider it only as something moveable, divisible, impenetrable, and of an indeterminate extension, and we shall have the idea of matter; an idea far more simple than that of body, of which it is only an abstraction, though a great many philosophers have been pleased to realize it. If we afterwards cease to think on the mobility of matter, on its divisibility, and impenetrability, and reflect only on its indeterminate extension; we shall frame an idea of pure space, which is still more simple. The same may be said of all abstractions, whereby it appears that the names of the most abstract ideas are as easy to determine, as those of the substances themselves.

§ 25. To determine archetypal ideas, namely those relating to human actions, to moral philosophy, jurisprudence, and the liberal arts, we must conduct ourselves quite otherwise than in determining the ideas of substances. Legislators had no patterns, when first they collected those simple ideas, of which they composed their laws; and when they made mention of several human actions, before they had considered whether there were any examples of them

to be found. In like manner the patterns of arts exist no where but in the mind of the first inventors. Substances, so far as they fall within our knowledge, are no more than particular collections of properties, which it is not in our power either to unite or separate, and which it is of no advantage to us to know, but as objects that exist, and in the manner as they exist. Human actions are combinations incessantly varying, of which it frequently concerns us to have some idea, before we have seen any patterns of them. Were we to frame our ideas of them only as experience instructed us, it would be oftentimes too late. We are therefore under a necessity of behaving here in a different manner; we unite or separate some simple ideas according as our fancy directs; or we adopt the combinations already made by others.

§ 26. There is this difference between the ideas of substances and archetypes, that we look upon the latter as patterns to which we refer external objects, whereas the former are no more than copies of what we perceive without ourselves. For the truth of the former, it is necessary that the combinations of the mind be conformable to what we observe in the objects: for the truth of the latter, it is sufficient that externally the combinations of them may possibly be such as they are in our minds. The idea of justice would be true, even if there was no such thing as a just action, because the truth of it consists in a collection of ideas, which does not at all depend on external objects. The idea of iron is no further true than as it is conformable to this metal, because this should be its pattern.

By these particulars concerning archetypes, one may easily conceive that it depends absolutely on our selves to fix the signification of their names, because it is in our own power to determine the simple ideas, whose collections we ourselves have framed. It is easy also to conceive that others will come into our way of thinking, provided we place them in particular circumstances, in which the same simple ideas shall be the subject of their thoughts as they are of ours; and wherein they shall be engaged to unite them under the same names as we have done.

Such are the means I had to offer, in order to promote as much as possible the perspicuity and precision of language. I did not think there was a necessity for making any change in the names of simple ideas, because the signification of them has appeared to me to be sufficiently determined by custom. With regard to complex ideas, they are framed so very inaccurately, that we cannot be excused from taking the materials of them once more in hand, and making new combinations of them, without any regard to those already framed. They are all the workmanship of the mind, as well the most accurate, as those which are least so: if we have succeeded in some, we may therefore promise ourselves success in the rest, provided we always proceed with the same circumspection.

CHAP. III.

Of the order which we ought to follow in the investigation of truth.

§ 27. **I** Cannot help thinking, but that a method which has conducted us to one truth may lead us to a second, and that the best must be the same for all sciences. It is therefore sufficient to reflect on the discoveries already made, in order to proceed in the exercise of our inventive powers. The most simple discoveries are the fittest for this purpose, because there is less trouble in observing the several means that have been used: I shall therefore borrow an example from the elements of mathematics, and suppose that we are just in the case of learning them the first time.

§ 28. We should doubtless begin with framing an idea of a unit; and adding it several times to itself, we should form collections thereof, determinable by signs. This operation we should repeat, and thereby soon acquire as many complex ideas of numbers as we desired. We should afterwards reflect on the manner in which they are formed; we should observe their progress, and infallibly learn the way of decomposing them. Then we might compare the most complex with the most simple, and discover the properties of both.

In this method the object of the operations of the mind would be only simple ideas, or such complex notions as we had already framed, and with whose origin we were perfectly acquainted. We should therefore

therefore find no difficulty in discovering the first relations of magnitudes. When once we knew these, it would be more easy to perceive the relations that immediately follow them, and which would certainly lead us to the knowledge of others. Thus having begun with the most simple, we should insensibly rise to the most complex, and frame to ourselves a series of ideas so strongly connected with each other, that we could never reach the most distant but by means of those which preceded them.

§ 29. Other sciences, which are equally within the reach of the human understanding, have no other principle than simple ideas, which we receive by sensation and reflexion. To acquire complex notions of them, our only method, as in the mathematics, is to make different collections of the simple ideas. We must therefore follow the same order in the progression of ideas, and use the same precaution in the choice of signs.

Against this conduct there are a great many prejudices; but I have thought on the following method to get rid of them.

It is in our infancy that we imbibe those prejudices which retard the progress of knowledge, and lead us into so many errors. If God were to create an adult person, with organs so perfect, that the very first moment of his existence he enjoyed the full use of reason, this man would not meet with the same difficulties as we in the investigation of truth. He would invent no signs but in proportion as he experienced new sensations, and made new reflexions. His first ideas he would combine according to the circumstances in which he found himself; he would
determine

determine each collection by particular names; and when he wanted to compare two complex notions, he might easily analyze them, because he would meet with no difficulty in reducing them to the simple ideas of which he himself had framed them. Thus as he invented words only after he had framed his ideas, these would be always exactly determined, so that his language would not be subject to the obscurity and ambiguity which prevails in ours. Let us therefore imagine ourselves in the place of this man, let us pass through every circumstance in which he must be, let us see with him what he sees, form the same reflexions, acquire the same ideas, analyze them with the same care, express them with the like signs, and frame to ourselves in some measure a new language.

§ 30. Reasoning, according to this method, only from simple ideas, or from such complex notions as are the workmanship of the understanding, we shall have two advantages: the first is, that being acquainted with the origin of those ideas on which we meditate, we shall not advance the least step without knowing where we are, how we got thither, and how we shall find our way back. The second is, that on every subject we shall plainly see the boundaries of our knowledge; which will be as soon as the senses cease to furnish us with ideas, and when the mind, of course, is no longer capable of forming the least notion. Now nothing seems to me of greater importance, than to discern those subjects on which our inquiries may be attended with success, from those where we must inevitably miscarry. For want of knowing how to make this difference, philosophers

phers have frequently trifled away their time in examining insolvable questions, when they might have employed it in useful researches. Of this we have an example in the great pains they give themselves to explain the essence and nature of beings.

§ 31. All truths whatsoever are limited to the relations subsisting betwixt simple ideas, complex ideas, and a simple and a complex idea. By the method here proposed, we shall be able to avoid the mistakes which some are apt to commit in this inquiry.

Simple ideas can never occasion any mistake. All errors proceed either from our depriving an idea of something that belongs to it, for want of seeing all its parts; or from our adding something that does not belong to it, through a precipitate judgment of the imagination that it contains something which it does not. Now we can take nothing from a simple idea, since we do not perceive any parts in it; nor can we add any thing to it, so long as we consider it as simple, for then it would lose its simplicity.

It is only in the use of complex ideas that a person may be mistaken, either in adding or diminishing something without foundation. But supposing them framed with the circumspection above required, the way to avoid mistakes will be to make new combinations of them; for thereby we shall see what they contain, and nothing more nor less. Then, what comparisons soever we make of simple and complex ideas, we shall never attribute any other relations to them, than those which they really contain.

§ 32. The obscurity and confusion which prevails in the writings of philosophers, arises from their not suspecting that there are any ideas which are the workmanship of the mind, or if they suspect it, from an incapacity of discovering their real origin. The prejudices they had imbibed, that all ideas are innate, or come from what source they will, that they are properly framed, these prejudices, I say, induce them to believe that they ought not to alter those ideas, but to take them just as they happen to offer. As there is no possibility of making a good analysis of any other ideas than those which we ourselves have regularly framed, their analyses, or rather definitions, are generally defective. They extend or restrain the signification of their terms without any just reason, they change it unknowingly, or they even refer the words to indeterminate notions, and to unintelligible beings. Hence, let me beg leave to repeat it, there is a necessity of making a new combination, beginning with the most simple ideas transmitted by the senses, and framing them into complex notions, which combined in their turn, will be productive of others, and so on. This method will save us from falling into error, provided we assign distinct names for each collection.

§ 33. Des Cartes was in the right to think that the only way of attaining real knowledge, was to begin with rejecting all those ideas which we imagine we have acquired: but he was mistaken in thinking that it was sufficient to doubt of them. To doubt whether two and two make four, whether man is a rational animal, is having ideas of two, four, man, animal, and rational. A doubt there-
fore

fore leaves the ideas still subsisting as they are; consequently as error proceeds from our ideas having been wrong framed, a doubt cannot prevent them. It may indeed make us suspend our judgments for a while; but we shall never be able to get rid of our state of uncertainty, except by consulting those ideas which it has not destroyed; and of course, if they be vague and indeterminate, they will bewilder us as before. Des Cartes's doubting is therefore to no purpose. That it is likewise impracticable, every man's experience may convince him: for if we compare some familiar and very determinate ideas, we shall find it impossible to doubt of the relations between them. Such are, for instance, those of numbers.

§ 34. If this philosopher had not been prejudiced in favour of innate ideas, he would have seen that the only way of raising a new stock of knowledge, is to destroy the old ideas themselves, in order to make new combinations, as we receive them from nature, that is, by sensation. Hence a great difference may be observed between saying with him, that we must begin with the most simple things, and saying with me, that we should begin with the simplest ideas transmitted by the senses. With him the most simple things are innate ideas, general principles and abstract notions, which he looks upon as the source of human knowledge. With me the most simple ideas are the first particular notices that we receive from the senses, and from reflexion. These are the materials of knowledge, which we occasionally combine in order to frame complex ideas, whose relations we discover by analysis. I do not say only that we ought to begin

with the most simple ideas, but with the most simple ideas *transmitted by the senses*, which I add to the end they may not be confounded with abstract notions, nor with the general principles of philosophers. The idea of solidity, for instance, complex as it is, is nevertheless one of the simplest that we receive immediately from the senses. In proportion as we decompose it, we frame ideas still more simple, and which differ in the same proportion from those transmitted by the senses. We see it diminish in a surface, in a line, and intirely disappear in a point*.

§ 35. There is still another difference between Des Cartes's method and that which I have here attempted to establish. According to him we must begin with defining things, and look upon the definitions as principles by which their properties are discovered. On the contrary, I think, that we ought to begin with inquiring into their properties; an opinion which seems to be well founded. If the notions we acquire are no more, as we have shewn, than different combinations of simple ideas, which experience has taught us to collect under particular names; it is much more natural to frame them, by searching for the ideas in the same order as we received them from nature, than to begin with definitions, that we may afterwards deduce the different properties of things.

§ 36. From this detail it appears that the order we ought to pursue in the investigation of truth, is that which I have already had occasion to mention,

* I take the words, *surface, line, point*, in the signification used by geométricians.

when speaking of the analytic method. It consists in ascending to the origin of our ideas, in unraveling their formation, and in compounding or decomposing them different ways, in order to compare them in every light that is capable of shewing their relations. I shall mention a word or two concerning the conduct which I think we ought to observe, in preparing our minds, as much as possible, for the discovery of truth.

§ 37. We should begin with examining our present notions in regard to the subject in hand, with unraveling their origin, and exactly determining our ideas. For one truth which we hit upon by chance, and cannot even be sure of, we run a risk, by having only indeterminate ideas, of falling into a thousand errors.

When the ideas are determined, we should compare them. But as we do not always meet with the same facility in making comparisons, it is of great consequence to know how to avail ourselves of whatever is capable of giving us any assistance. It should therefore be observed, that according to the habits which the mind has acquired, there is nothing but what can help us to reflect. That is, there are no objects with which we cannot connect our ideas, and consequently there are none improper for strengthening the memory, and improving the fancy. The whole consists in knowing how to frame these connexions according to the end we propose, and to our present circumstances. Were we masters of this art we should not stand in need of the precaution of some philosophers, in retiring into deserts, and shutting themselves up in caves, there to meditate by

lamp light. Neither day, nor night, neither noise, nor silence, nothing in fine can disturb a person who has acquired the habit of thinking.

§ 38. In proof of this we need only take notice of two facts which a great many persons must certainly have experienced. Suppose we betake ourselves to some gloomy recess, the least noise or light that comes unexpected, shall be sufficient to divert our thoughts from the subject of our meditation. The reason is, the ideas about which we are employed are naturally connected with our present situation: hence we are no sooner solicited by perceptions contrary to this situation, than the order of ideas is disturbed. The same may be observed in quite a different supposition. Let me reflect on any particular subject by day-light, and in the midst of hurry and noise; the sudden cessation of light or noise is sufficient to interrupt my reflexion. In this, as in the former case, the new perceptions are quite contrary to my present situation. Therefore the sudden impression must likewise break the thread of my ideas.

This second experiment shews that light and noise are no hindrance to reflexion: on the contrary, I think they might be rendered greatly conducive to this, by custom and habit. Properly speaking, nothing but an *unexpected* change is capable of interrupting our attention. I say *unexpected*; for let the changes around us be what they will, if they present us with nothing but what we ought naturally to expect, they only make us apply ourselves more intently to the subject before us. What a variety of things do not we sometimes meet with in the same

landskip? Fruitful hills, barren plains, rocks that rear their lofty heads above the clouds, woods where noise and silence, light and darkness, succeed each other alternately, &c. And yet daily experience shews, that poets are inspired by this variety; for as it is connected with the most florid images of poetry, it must needs revive those agreeable ideas. The prospect, for example, of a fruitful hill, renews the idea of the singing of birds, of purling rills, of happy swains, of their pleasant and quiet life, their loves, their constancy, their fidelity, the innocence of their manners, &c. There are indeed a variety of examples, by which we might prove that men think only as they are assisted by the objects which sollicit their senses, or by those whose images the imagination calls into view.

§ 39. It has been already observed that the analytic method is the only mean or instrument of invention. But some perhaps will ask me, by what mean or instrument are we to discover the analytic method itself? I answer, by the connexion of ideas. When I want to reflect upon an object, in the first place I observe that the ideas I have of it are connected with those I have not, and which I am in search after. I observe next, that the one and the other may be combined a great many ways, and according as the combinations vary, there is more or less connexion between the ideas. I may therefore suppose a combination in which the connexion is as great as it possibly can be; and several others in which the connexion gradually diminishes, till it ceases to be sensible. If I view an object on that side which has no sensible connexion with the ideas

I am seeking, I shall find nothing. If the connexion is superficial, I shall discover very little; my conceptions shall seem to be no more than the consequence of an intense application, or even the effect of chance, and a discovery of this nature will afford me very little assistance towards making any further progress. But let me consider an object on that side which is most connected with the ideas I am investigating, the whole shall be fully discovered to my view; the analysis shall be almost without any trouble on my side; and in proportion to the progress I make in the knowledge of truth, I shall be able to discern even the minutest springs of my understanding, and thereby to learn the art of making new analyses.

The whole difficulty consists in knowing how to begin in order to find those ideas according to their principal connexion. I say that the combination in which this connexion is found, is that which agrees with the origin and formation of things. Consequently we are to begin with the first idea which must have been productive of all the rest. Let us come to an example.

The schoolmen and the Cartesians were strangers both to the origin and formation of our ideas: for the principle of innate ideas, and the vague notion of the understanding, with which they set out, have no connexion with this discovery. Mr. Locke had better success, because he began at the senses, and if he has left any thing imperfect in his work, it must be owing to his not having developed the first progression of the operations of the mind. I have attempted what this philosopher forgot, by ascending

ascending to the first operation of the mind, and have, I think, not only given a complete analysis of the understanding, but likewise discovered the absolute necessity of signs, and the principle of the connexion of ideas.

We cannot however make use of the method I proposed, without using every sort of precaution not to advance a step but in proportion as we have exactly determined our ideas. If we pass too superficially over some, we shall find ourselves retarded by such obstacles as it will be impossible for us to surmount, without returning to our first notions, in order to render them more determinate.

§ 40. Every man must, some time or other, have had some invention of his own, where his thoughts are not borrowed, though perhaps they contain nothing new. 'Tis then we ought to enter into ourselves, and reflect on what we inwardly experience. We should observe the impressions made on the senses, the manner in which the mind was affected, the progress of its ideas, in a word, every circumstance that could give rise to a thought which intirely proceeded from our own reflexion. If we would but repeat this observation several times, we should surely discover the natural conduct of the mind. Consequently we should know the means most proper for making it reflect; and if it contracted any habit contrary to the exercise of its operations, we might gradually cure it.

§ 41. We should easily acknowledge our faults, if we could but observe that the greatest men were guilty of the like. Philosophers would have supplied our general incapacity of self-reflexion, if they had

had left us the history of the progress of their minds. Des Cartes indeed has done it, and this is one of the great obligations we owe him. Instead of attacking the schoolmen directly, he represents the time when he was swayed by the same prejudices, he mentions the difficulties he had to encounter before he could get rid of them, he lays down rules for a much plainer method than any used before his time, he hints at the discoveries which he imagines himself to have made, and by this whole artifice he prepares the mind for embracing the opinion which he purposed to establish *. I am apt to think that this contrivance greatly contributed to the revolution occasioned by this philosopher.

§ 42. Nothing can be of greater importance than to conduct children in the manner in which I observed we ought to conduct ourselves. Even in playing with them we might make them improve the habit of their intellectual operations, as much as they are capable of being improved, if every object, as we have just now observed, be fit for this end. We might even insensibly bring them to contract a habit of submitting these operations to regularity and order. When years and circumstances came afterwards to change the objects of their amusements, their minds would be perfectly formed, so as to possess, at an early period of life, a degree of sagacity, which by any other method they would very late, or perhaps never acquire. Children are not therefore to be taught Latin, history, or geography, &c. Of what advantage can these sciences be at an

* See his method.

age in which they are as yet incapable of thinking? For my part, I pity those infants whose learning is admired, foreseeing that some time or other the ordinary level of their capacity, or perhaps their dullness, will cause as great a surprize. I repeat it once more, that the principal point is to improve the habit of the different operations of their minds; nor need we go in search of objects foreign to their years, when this end may very well be attained even amidst their innocent amusements.

§ 43. It has been frequently the subject of inquiry among philosophers, whether there be a first principle of human knowledge: some have supposed but one, some two, others more. Every man, I think, may by his own experience be sure of the truth of that principle on which this work is founded. Perhaps we shall even be convinced that the connexion of ideas is without comparison the simplest, the clearest, and even the most fruitful principle. At the very time when its influence was not observed, we were indebted to it for every improvement made by the human understanding.

§ 44. Such were the reflexions I had made on method when I began to read my lord Bacon's works. I was afterwards as much pleased that my notions happened to coincide with this great man's on some particular points, as I was surprized that the Cartesians had borrowed nothing from him. No man was better acquainted with the cause of human error: for he perceived that there was an original defect in the framing of those ideas which are the workmanship of the mind; and consequently that to advance in the investigation of truth, new combinations

binations are requisite. This is an advice he often repeats †. But how was it possible for him to be heard? The public were so strongly prejudiced in favour of the school jargon, and of innate ideas, that they treated the regeneration of the human understanding as a chimerical project? The method proposed by his lordship was too perfect to produce a revolution; that of Des Cartes, by letting some errors continue, was sure of success. Farther, the English philosopher had such weighty employments as hindered him from putting his own theory in practice; consequently he was obliged to be satisfied with giving advice, which must have made but a slight impression on superficial minds. Des Cartes, on the contrary, delivered himself up intirely to philosophic studies, and having a more lively and more fruitful imagination, in the room of former errors he sometimes introduced others of a more imposing nature; which contributed not a little to his reputation.

† *Nemo, he says, adhuc tanta mentis constantia & rigore inventus est, ut decreverit & sibi imposuerit, theorias & notiones communes penitus abolere, & intellectum abrosum & æquum ad particularia de integro applicare. Itaque illa ratio humana quam habemus, ex multa fide, & multo etiam casu, nec non ex puerilibus, quas primò hausimus, notionibus, farrago quædam est & congeries.*

Quod si quis ætate matura & sensibus integris; & mente repurgata, se ad experientiam & ad particularia de integro applicet, de eo melius sperandum est. Non est spes nisi in regeneratione scientiarum; ut eæ scilicet ab experientia certo ordine excitentur & rursus condantur: quod adhuc factum esse aut cogitatum, nemo, ut arbitramur, affirmaverit. This is one of the aphorisms of the work which I mentioned in my introduction.

C H A P. IV.

Of the order which ought to be followed in the exposition of truth.

§ 45. **E**VERY body knows that an author ought to shew no appearance of art; but it is not so well known perhaps that it requires great art to make this concealment. There are many writers, who, to render themselves more easy and natural, think it not right to submit to order. And yet if by the word natural we are to understand nature exempt from blemish, it is evident that we ought not to pretend to imitate her by a careless irregularity, nor to throw off the appearance of art till we have learnt to avoid so unpardonable a defect.

§ 46. Other writers there are, who endeavour to distinguish themselves by method and order, carefully dividing and subdividing their works: but we are offended with the too glaring appearance of art. The more they aim at order, the more they grow insipid, and obscure: because they are incapable of chusing the order most natural to the subject before them. If they had pitched upon this, they would have conveyed their thoughts in so clear and so simple a manner, that the reader would have understood them too easily, to make the least question of the pains they had taken. We are inclined to believe things easy or difficult to others, according as they are either the one or the other in respect to ourselves, and we naturally judge of the difficulty a writer

writer has had to explain himself, from that which we find to understand him.

§ 47. Natural order can never do any harm : it is requisite, even in works written with the spirit of enthusiasm, for example, in odes : not that there is a necessity for any methodical reasoning in these poems ; but we ought to comply with the order in which the ideas descriptive of each passion are ranged. And indeed here, I think, lies the whole force and beauty of this kind of poetry.

With regard to philosophic works, nothing but order will enable an author to perceive some things that have been forgotten, or others which have not been sufficiently examined. This I have often myself experienced. The present essay, for example, was finished, and yet I did not even then understand the principle of the connexion of ideas in its full extent. This was owing intirely to a passage of about two pages, which was not in its right place.

§ 48. We are pleased with order, for a very plain reason : it sets things in the same light and view ; it connects them ; and by thus promoting the habit of intellectual operations, it enables us easily to remark such relations as are of any importance to us to perceive in objects that affect us. Our pleasure ought to increase, in proportion as we more easily conceive those things which it is our interest to know.

Want of order may be likewise said to please sometimes, but this depends on particular affections of the mind. In those moments of revery, when we are too indolent to employ our thoughts for any considerable time on the same subject, but are amused with

with rambling ideas; a wide field, for instance, shall afford us more pleasure than the finest garden. This is because the irregularity of the field seems to agree better with our present ideas, and humours our reverie, by hindering us from dwelling on the same thought. This affection of the mind is sometimes delicious, especially when we enjoy it after our faculties have been for any time on the stretch.

There are some affections of the mind which may be said to favour the reading of loose and unconnected essays. Sometimes, for example, I read Montaigne with a great deal of pleasure; at other times I confess I cannot bear him. I know not whether others have experienced the same: for my part I should not like to be condemned to read only such writers. Be that as it may, there is this advantage in order, that it constantly pleases; whereas irregularity pleases only now and then, and there are no certain rules for rendering it agreeable. It was therefore Montaigne's good fortune to succeed in this kind of writing; but it would be presumption to attempt to imitate him.

§ 50. The intent of order is perspicuity. We ought therefore to avoid prolixity, because it is tiresome; digressions, because they interrupt our attention; too frequent divisions and subdivisions, because they confound our ideas; and repetitions, because they are fatiguing to the mind: a thing once said, and in its proper place, is clearer than if it had been elsewhere repeated a thousand times.

§ 51. In the exposition, as well as the investigation of truth, we ought to begin with the easiest ideas, such as are immediately derived from the senses;
and

and afterwards to rise by degrees to more simple or more complex notions. I really believe that if we rightly comprehended the progression of truths, we should have no need to look for arguments to demonstrate them, the bare proposing them being sufficient; for they would follow one another in such order, that whatever a subsequent truth added to that which preceded, would be too simple to have need of any demonstration. Thus we should arrive at those which are more complex, and be surer of them than by any other way. We might even establish so great a subordination between the several ideas we had acquired, as to be able to pass, when we pleased, from the most complex to the most simple, or from the most simple to the most complex. We could hardly indeed forget them; or if this should happen, the connexion subsisting between them, would render them easy to be retrieved.

But to communicate a truth in the most perfect order, it is requisite we take notice of the order in which it might have been naturally found: for the best method of instructing others, is to conduct them the same way which we were obliged to follow for our own information. Thus it would seem as if we were not demonstrating truths already discovered, but rather pointing out new truths, and making new discoveries. The reader would not only be convinced but instructed; and by learning him to investigate by himself, we should set the truth before him in the most interesting light. In fine, he would be enabled to account to himself for every step he took: he would know whereabouts he is,
from

from what point he sets out, and whither he is going; consequently he might judge by himself of the road he is directed to, and might chuse a safer way, so often as he perceived any danger in following his guide.

§ 52. Nature itself points out the order we ought to follow in the communication of truth: for if all our ideas come from the senses, it is manifest that the perception of abstract notions must be prepared by sensible ideas. Is it reasonable to begin with the idea of possibility to come to that of existence? or with the idea of a point to arrive at that of solidity? The elements of sciences can never become simple and easy, till we take quite a contrary method. If philosophers do not care to acknowledge this truth, it is because they are prejudiced in favour either of innate ideas, or of a custom which seems to have been consecrated by time. So general is this prejudice, that I shall have scarce any but the ignorant on my side: but here the ignorant are proper judges, since elementary institutions are designed for their use. In this way of writing, what the learned would look upon as a master-piece, does not answer its end, if we do not understand it.

Geometricians themselves, who of all philosophers ought to be best acquainted with the advantages of the analytic method, give the preference very frequently to the synthetic. Hence it is that when they quit their calculations to enter into researches of a different nature, we find they have neither the same clearness, nor precision, nor the same extent of comprehension. Of four celebrated metaphysicians, Des Cartes, Mallebranche, Leibnitz,

and afterwards to rise by degrees to more simple or more complex notions. I really believe that if we rightly comprehended the progression of truths, we should have no need to look for arguments to demonstrate them, the bare proposing them being sufficient; for they would follow one another in such order, that whatever a subsequent truth added to that which preceded, would be too simple to have need of any demonstration. Thus we should arrive at those which are more complex, and be surer of them than by any other way. We might even establish so great a subordination between the several ideas we had acquired, as to be able to pass, when we pleased, from the most complex to the most simple, or from the most simple to the most complex. We could hardly indeed forget them; or if this should happen, the connexion subsisting between them, would render them easy to be retrieved.

But to communicate a truth in the most perfect order, it is requisite we take notice of the order in which it might have been naturally found: for the best method of instructing others, is to conduct them the same way which we were obliged to follow for our own information. Thus it would seem as if we were not demonstrating truths already discovered, but rather pointing out new truths, and making new discoveries. The reader would not only be convinced but instructed; and by learning him to investigate by himself, we should set the truth before him in the most interesting light. In fine, he would be enabled to account to himself for every step he took: he would know whereabouts he is,
from

from what point he sets out, and whither he is going; consequently he might judge by himself of the road he is directed to, and might chuse a safer way, so often as he perceived any danger in following his guide.

§ 52. Nature itself points out the order we ought to follow in the communication of truth: for if all our ideas come from the senses, it is manifest that the perception of abstract notions must be prepared by sensible ideas. Is it reasonable to begin with the idea of possibility to come to that of existence? or with the idea of a point to arrive at that of solidity? The elements of sciences can never become simple and easy, till we take quite a contrary method. If philosophers do not care to acknowledge this truth, it is because they are prejudiced in favour either of innate ideas, or of a custom which seems to have been consecrated by time. So general is this prejudice, that I shall have scarce any but the ignorant on my side: but here the ignorant are proper judges, since elementary institutions are designed for their use. In this way of writing, what the learned would look upon as a master-piece, does not answer its end, if we do not understand it.

Geometricians themselves, who of all philosophers ought to be best acquainted with the advantages of the analytic method, give the preference very frequently to the synthetic. Hence it is that when they quit their calculations to enter into researches of a different nature, we find they have neither the same clearness, nor precision, nor the same extent of comprehension. Of four celebrated metaphysicians, Des Cartes, Mallebranche, Leibnitz,

and Locke, the latter is the only one that was not a geometrician, and yet how vastly superior is he to the rest!

§ 53. Let us conclude, that if the analytic method be what we ought to follow in the investigation of truth, it should likewise be used in communicating such truths as are already discovered: and indeed I have endeavoured to follow it.

What I have been saying in regard to the operations of the mind, to language, and method, plainly proves the impossibility of perfecting the sciences, unless we endeavour to render their language more precise. Thus it has been demonstrated that the origin and progress of our ideas intirely depends on the manner in which we make use of signs. Therefore I was in the right to deviate sometimes from custom,

In a word, whatever contributes to the enlarging of the mind, may, I think, be brought into this short compass. The senses are the source of human knowledge. The different sensations, perception, consciousness, reminiscence, attention and imagination, the two last considered as not yet subject to our controul, are its materials: memory, imagination, as subject to controul, reflexion, and the other operations, employ these materials: the signs to which we are indebted for the habit of these very operations, are the instruments they make use of: and the connexion of ideas is the first spring which puts all the rest into motion. I shall finish with proposing the following problem. *An author's work being given, to determine the character and extent of his understanding, and in consequence thereof to tell not only*
the

the talents of which he gives proofs, but likewise those which he is capable of acquiring: to take, for instance, Corneille's earliest performance, and to demonstrate that, when this poet wrote it, he was already possessed of, or at least would soon acquire those bright parts by which he merited such high applause. Nothing but an analysis of the work is capable of shewing us the operations that produced it, and how far they were exerted; and nothnig but the analysis of these operations can make us distinguish the qualifications compatible in the same man, from those which are otherwise, and thereby enable us to give a solution to the problem. I question whether there are many problems more difficult than this.

The END of the SECOND and LAST PART.

BOOKS printed for J. Nourse at the Lamb opposite
Katherine-street in the Strand London.

THE PRINCIPLES OF NATURAL AND POLITIC LAW; by
J. J. Burlamaqui, Counsellor of State, and late Professor of
Natural and Civil Law at Geneva. Translated into English by
Mr. Nugent, 2 Vols. Octavo.

CRITICAL REFLECTIONS ON POETRY, PAINTING, AND MUSIC.
With an Enquiry into the Rise and Progress of the Theatrical
Entertainments of the Ancients. Written in French by the
Abbé Du Bos, Member and perpetual Secretary of the French
Academy. Translated into English by Thomas Nugent, Gent.
from the Fifth Edition, revised, corrected, and enlarged by
the Author, 3 Vols. Octavo, 1748.

N. B. In this Work the Rise, Progress, and Perfection of
these several Arts are fully discussed; an historical Account
is given of the most eminent Artists in the several Kinds; the
particular Excellencies in which each excelled are explained; and
the Criteria are laid down, by which the Reader is instructed
how to judge of the Works of the greatest Masters both ancient
and modern, in Poetry, Painting, Music, Sculpture, and of the
other Parts of polite Literature.

AN ESSAY TOWARDS A PRACTICAL ENGLISH GRAMMAR, de-
scribing the Genius and Nature of the English Tongue; giving
likewise a rational and plain Account of Grammar in general,
with a familiar Explanation of its Terms; by James Green-
wood, Sur-Master of St. Paul's School. The fourth Edition,
with Additions, Duodecimo.

HERMIPPUS REDIVIVUS; or, the Sages Triumph over Old-Age
and the Grave; wherein a Method is laid down for prolonging
the Life and Vigour of Man; including a Commentary upon
an antient Inscription, in which this great Secret is revealed;
supported by numerous Authorities: The whole interspersed
with a great Variety of remarkable and well-attested Relations.
Octavo, 1749. 2d Edition, carefully corrected, and much en-
larged.